Advances in Feed Evaluation Science

Wageningen Business School

Wageningen, The Netherlands
May 20 – May 24, 2013
Our knowledge of the effects of specific nutrients and anti-nutrients on metabolism and ultimately animal performance has expanded rapidly over the last decade.

This has increased the need to accurately define the available nutrient content of animal feeds. In addition, some major advances have been made in chemical analyses and other laboratory assays that allow us to better characterize nutrient content and availability in feedstuffs.

Developments have also increased our knowledge of the potential nutritional value of feeds and feedstuffs with regard to components from feeds which are used for the synthesis of body components and for the support of metabolic processes in the body. Moreover, there have been several recent technical innovations, such as the development of new in vitro digestibility assays, new bio-available lysine assays, new methods for determining endogenous ideal amino acid losses and thus true digestibility, near infra-red analysis (NIRA) and computerized growth models for determining dietary nutrient requirements. All of these can contribute considerably to the accurate formulation of mixed diets for simple-stomached animals.

The recent focus on the bio-economy in our society yields many new by-products, which are often highly variable in terms of nutritive value. Effective feed formulators need to be up to date with these and other technologies, and a primary aim of this seminar is to provide an opportunity for such an update.

Objective and target group

The objective of the seminar is to provide a concise update on the principles of feed evaluation as applied to the livestock industries. This seminar is intended for nutritionists, feed formulators, advisors, managers, teachers, researchers and professionals involved in animal feed manufacture.

Animal Nutrition at Wageningen University

The chair group Animal Nutrition at Wageningen University focuses its education of students and research programmes on the nutrition of ruminants, monogastric production and companion animals. The group contributes to the Animal Sciences and Biology degree programme of Wageningen University as well as the veterinary degree programme at Utrecht University.

Research themes are aimed at increasing our knowledge of the interaction between nutrients and animals, including digestion, absorption, metabolism and nutrigenomics. The chair group at Wageningen University has joined together with the Animal Nutrition Cluster of the Wageningen Livestock Institute and the chair group Nutrition of the Faculty of Veterinary Medicine of Utrecht University to form the Centre for Animal Nutrition.

Seminar Leaders

Prof. W.H. Hendriks, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands
Prof. C.F.M. de Lange, University of Guelph, Department of Animal and Poultry Science, Guelph, Canada
J. van Milgen PhD, INRA, Research team Nutrition and Metabolism, Saint Gilles, France
Prof. P.J. Moughan, Massey University, Riddet Institute, Palmerston North, New Zealand
### Lecturers

- **J. van Baal PhD**, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands
- **J. van den Borne PhD**, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands
- **J. Dijkstra PhD**, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands
- **W.J.J. Gerrits PhD**, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands
- **Prof. G.P.J. Janssens**, Ghent University, Animal Nutrition, Genetics, Breeding & Ethology, Belgium
- **R.K. Kwakkel PhD**, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands
- **W. Pellikaan PhD**, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands
- **A.F.B. van der Poel PhD**, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands
- **J.W. Schrama PhD**, Wageningen University, Aquaculture and Fishery group, Wageningen, The Netherlands
- **Prof. M.W.A. Verstegen (em.)**, Wageningen University, Animal Nutrition group, Wageningen, The Netherlands

### Programme

**Day 1** May 20, 2013  
Welcome and registration of participants, informal reception and opening dinner

**Day 2** May 21, 2013

- **Introduction to the seminar**  
  Nutrients and non-nutrients in animal nutrition (incl. protein fats, carbohydrates, ANFs, minerals, vitamins, etc)  
  **Prof. W.H. Hendriks**

- **I Chemical Composition and Aspects of Feed Analyses**  
  Overview of the determinants of nutritional value of feed ingredients for different classes of animals  
  **Prof. C.F.M de Lange**  
  Protein/ amino acid determination of diets and ingredients  
  **Prof. P.J. Moughan**  
  Characterisation of non-starch polysaccharides as components of diets  
  **Prof. C.F.M de Lange**

- **II Nutrient Digestibility, Bio-availability & Fermentation**  
  Amino acid bio-availability – methodology & concepts  
  **Prof. P.J. Moughan**  
  Fermentation of non-starch polysaccharides in the large intestine of monogastric animals  
  **W.J.J. Gerrits PhD**

**Day 3** May 22, 2013

- **II Nutrient Digestibility, Bio-availability & Fermentation**  
  Bio-availability of the energy component of diets  
  **J. van Milgen PhD**  
  Anti-nutritional factors in feeds: the defence system of plants  
  **Prof. C.F.M de Lange**  
  Fermentation, digestion and methane measurements in ruminants  
  **W.F. Pellikaan PhD**

**Day 4** May 23, 2013

- **III Mathematical Modelling of Nutrient-Animal Interactions**  
  Principles of feed and energy intake regulation  
  **J. van Milgen PhD**

  Growth modelling of pigs  
  **Prof. P.J. Moughan**

  Integrated modelling of rumen function: milk and methane  
  **J. Dijkstra PhD**

- **IV New Trends in Feed Evaluation**  
  Modelling afternoon (CVB, Massey model, SIMON, rumen model)  
  Nutrigenomics and fatty acid metabolism  
  **J. van Baal PhD**

**Day 5** May 24, 2013

- **IV Recent Advances in Feed Evaluation**  
  Physical aspects of feed and digestion in fish  
  **J.W. Schrama PhD**

  Feline and canine digestion and nutrient metabolism: The basis of diet formulation for cats and dogs  
  **Prof. W.H. Hendriks**

  Diet structure and its consequences for metabolism in poultry  
  **R.P. Kwakkel PhD**

  Dietary supplementation of metabolic modulators  
  **Prof. G.P.J. Janssens**

  Evaluation of diets for cats and dogs  
  **Prof. W.H. Hendriks**

  Evaluation, certificates and closing
Information and registration

The course will be held in Hotel Hof van Wageningen, Wageningen, The Netherlands.
The course fee of € 2895,- covers full board and lodging, tuition, course materials, coffee/tea, lunches and dinners. No financial assistance is available.
Registration closes at April 22, 2013. Shortly after this date, you will receive additional information about the course.
A maximum of 30 participants can take part in this course. Registration can only be cancelled by letter. Cancellation between 4 and 2 weeks before start of the course, will result in an € 50,- invoice for administrative costs. Cancellation within 2 weeks before the start of the course will result in a full course fee invoice.

Terms and conditions
The General Terms and Conditions of Wageningen UR (University & Research centre) apply to all activities of Wageningen Business School. In addition, Wageningen Business School applies additional terms and conditions. These can be read at www.wageningenUR.nl/wbs.
Wageningen Business School will not accept any legal liability for loss of life or property or illness during the course. Participants must arrange adequate insurance.

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<th>Price</th>
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<td>Max. participants</td>
<td>30</td>
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More information
Malou Gosselink
Wageningen Business School
Wageningen UR

Registration
Wageningen Business School
Wageningen UR
PO Box 226
6700 AE Wageningen

T +31 317 48 40 93
E info.wbs@wur.nl
I www.wageningenUR.nl/en/wbs