



## 9<sup>th</sup> European Equine Health and Nutrition Congress: Small Things

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Almost 250 delegates from 20 countries attended the 9th edition of the European Equine Health & Nutrition Congress (EEHNC). The 9<sup>th</sup> EEHNC was hosted by Utrecht University, the Netherlands (February 15-17). Internationally recognised specialists in nutrition, veterinary scientists, veterinarians, industry representatives and equine professionals attended this meeting. Participants could also follow pre-congress mini-symposia and practical hands-on workshops at the Faculty of Veterinary Medicine, Utrecht University.

The congress theme was “Small things”, inspired by Van Gogh’s statement “For the great doesn’t happen through impulse alone and is a succession of little things that are brought together”. In the context of this theme ‘small things’ were represented amongst others by nutrients, microbiota, fungi, mycotoxins and dust particles. All these small things can have a big impact on a horse’s health.

Dr Ludovic Bailly-Chouriberry (Director LCH, France) and Dr Anneleen DeCloedt (Ghent University) explained that the Federation Equestre Internationale has initiated the "Clean Sport initiative". They highlighted in the mini-symposium Nutrition & Doping held on Friday February 15th that even compounds which may be contained in concentrates, supplements and roughages can lead to positive doping tests.

The first session on Saturday focused on very small things indeed - The role of microbes and nutrients in maintaining gastrointestinal health of the horse. Here, Professor Véronique Julliand (Agrosup Dijon) indicated that we still do not know the species of 80% of bacteria in the digestive tract. Ideally, professionals should be able to take a faecal sample to assess gastro-intestinal tract health. However, currently we still lack some understanding how faecal microbial composition reflects the health in the various compartments of the digestive tract. As part of the microbiome, but often overlooked, the equine anaerobic fungi are of central importance to dietary fibre break down. Dr Joan Edwards (Wageningen University) highlighted the latest understanding of the function of anaerobic fungi and how this can be used to optimize the digestive environment. This could also lead to developments of pro-biotics which improve fibre degradation in the future. Sticking with ‘small things’, Bart van der Hee (Wageningen University) presented an exciting new way to study location-specific epithelial responses in the horse small intestine, caecum and colon by the use of organoids (“mini-guts”). With this in-vitro technique the interaction between the microbiome and the equine intestinal epithelial lining cells can be studied.

The multi-factorial causes of free faecal water in horses is poorly understood and therefore was reviewed in depth via a special session at the 9th EEHNC led by Dr. Mathijs Theelen (Utrecht University). When all other management has failed, the use of faecal microbiota transplants (FMT) may be used as a potential treatment method. Results of studies, using two clinical FMT protocols were presented.

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Dr. Caroline Loos won the open communications award for her short presentation on the effect of high protein meals on insulin responses in horses with insulin dysregulation. This study highlighted that we should also consider not only sugar and starch, but also protein in relation to insulin production and metabolism.

On Sunday, the 'small things' theme was aptly upheld by looking at the power of the interaction between the genes in horses' bodies and environmental factors. The study of Epigenetics focuses on how environmental conditions during key life stages, from conception to maturity, may alter genetic expression and pre-dispositions towards disease. Prof. Pascale Chavatte-Palmer (INRA) gave an excellent summary of current knowledge in mammalian epigenetics and the relevance of this for the equine species from a veterinarian point of view. This was complemented by an in-depth overview of research in equines by Dr. Morgane Robles. For example, both obesity and undernutrition during pregnancy can lead to metabolic and osteoarticular alterations in growing foals; the body condition of the pregnant mare has to be monitored regularly to adapt the diet accordingly to the mares' needs.

In the session on feed hygiene & feeding management practices Prof. Bruce McGorum (University of Edinburgh) discussed nutritional causes of liver disease and Dr. Cornélie Westermann (Utrecht University) pointed out that management of housing conditions with minimal dust and good ventilation are key in the prevention of equine Asthma. Dr. Westermann provided a list of practical tips in relation to bedding, roughage and ventilation.

Tips and take-home messages of all speakers can be found in the proceedings.

**Proceedings:**

*If you are interested in the excellent in-depth papers provided by the speakers, the Proceedings of the 9th European Equine Health & Nutrition Congress are also available as a booklet. The proceedings booklet contains full papers of invited speakers and abstracts from the poster session and can be ordered from the congress website <http://www.equine-congress.com>*



Dr Caroline Loos won the free communications award for her short presentation on the effect of high protein meals on insulin responses in horses with insulin dysregulation. This study highlighted that we should also consider not only sugar and starch, but also protein in relation to insulin production and metabolism.

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Dr. Ludovic Bailly-Chouriberry (Director LCH, France).

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The Congress 'kicked off' with a tour of the Utrecht faculty of veterinary medicine, highlighting the excellent diagnostic and care facilities. Dr. Mathijs Theelen (Utrecht University) guides a participant through the virtual rectal examination, using 'the haptic horse'. Sensors attached to the fingers allow for the realistic 'touch-feeling' of the organs, when training students.

*Photograph: Copyright Andrea Ellis*



Some of the 246 delegates of the 9th European Equine Health and Nutrition Course in front of the University Hall, Utrecht University.

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Bart van der Hee (Wageningen University) presented his novel work about the development of equine intestinal organoid monolayers to study location-specific epithelial responses.

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Dr. Joan Edwards (Wageningen University).

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The 9th EEHNC plenary sessions on 16 and 17 February were held at the Utrecht University Hall right in the centre of Utrecht.

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Prof Pascale Chavatte-Palmer and Dr. Morgane Robles.

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Prof. Meriel Moore-Colyer gave an overview of studies regarding supplements and digestive aids and she highlighted that these additives need to be backed up by scientific evidence.

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