

2nd International Conference on

Livestock Nutrition

July 21-22, 2016 Brisbane, Australia

Nutrigenomics in livestock: Emerging face of molecular nutrition to improve animal health and production

A K Thiruvankadan

Mecheri Sheep Research Station, India

Nutrition and health are closely linked, but despite decades of study, the intricate interactions between diet and many aspects of human and animal health is poorly understood. The advent of high-throughput technologies to study an animal's genome, proteome and metabolome constituted a setback to the use of reductionism in livestock research. More recent development of "next-generation sequencing" tools was instrumental in allowing in-depth studies of the microbiome in the rumen and other sections of the gastrointestinal tract. Omics, along with bioinformatics, constitutes the foundation of modern systems biology to enhance understanding of the complex biological interactions occurring within cells and tissues at the gene, protein and metabolite level. Genomic revolution has propelled the development of several new technologies that can be applied in nutritional sciences. Molecular nutrition in terms of nutrigenomics will serve as a new tool for nutritional research in mitigating the problems related to animal health and production. The innovations in nutrition research with use of various molecular technologies will indubitably update our basic understanding of nutrient gene interrelationship and help to define new methods for managing animal production. Finally by targeting the specific gene through nutritional manipulation, it may be possible to get the desired livestock performance in terms of health as well as production. I present examples of new knowledge generated through the application of functional analyses of transcriptomic, proteomic and metabolomic data sets encompassing nutritional management of dairy cows, pigs and poultry. Published work to date underscores that the integrative approach across and within tissues may prove useful for fine-tuning nutritional management of livestock. An important goal during this process is to uncover key molecular players involved in the organism adaptations to nutrition.

Biography

A K Thiruvankadan has completed his PhD in Animal Genetics and Breeding from Tamil Nadu Veterinary and Animal Sciences University, India and actively involved in teaching and research in the field of Animal Production. He is the Professor and Head of Mecheri Sheep Research Station, India (affiliated to Tamil Nadu Veterinary and Animal Sciences University, Chennai) and involved in research activities related to animal nutrition and animal genetics. He has presented several invited papers in the national and international conferences and has published more than 75 papers in reputed journals and has been serving as an Editorial Board Member of scientific journals.

drthirusiva@gmail.com

Notes: