



# Genetic selection as effective methane mitigation tool in livestock

## Symposium on behalf of the PhD defence of Anouk van Breukelen

Methane emissions have been identified as major contributor to global warming. In livestock, various reduction strategies are heavily researched, such as management and feeding strategies or genetic selection. Genetic selection is a reliable, cost-effective, accumulative and permanent methane mitigation tool. Several countries worldwide have started recording individual methane emission of cattle and small ruminants. In the Netherlands, methane concentration was measured on 100 farms for more than 10,000 Holstein cows. This unique data set built the basis for genetic analyses carried out in the PhD project of Anouk van Breukelen. The estimated genetic parameters are essential for implementing breeding strategies for lower methane emission in the Dutch breeding goal. The accompanying symposium of the PhD defence gives an overview of genetic selection strategies for reduced methane emission in cattle and sheep in different countries.

Programme:

- 10:15 Coffee/tea
- 10:40 Roel Veerkamp, Wageningen University & Research, Animal Breeding and Genomics  
**Welcome and introduction**
- 10:45 Birgit Gredler, Wageningen University & Research, Animal Breeding and Genomics  
**Global Methane Genetics: a global program to accelerate genetic progress for reduced methane emissions in ruminants**
- 11:00 Marcin Pszczoła, Poznań University of Life Sciences, Department of Genetics and Animal Breeding, Poland  
**Selecting environmentally friendly cows – are we there yet?**
- 11:25 Oscar Gonzalez-Recio, INIA-CSIC Spain, Department of Animal Breeding  
**Genomic and metagenomic tools for climate change mitigation in Spanish dairy cattle**
- 11:50 Michael Aldridge, AGBU, Animal Genetics and Breeding Unit, Australia  
**Selecting for more methane efficient sheep: progress towards publishing EBVs**
- 12:15 Eileen Wall, Scotland Rural College, Edinburgh, UK  
**Towards net zero for Scotland: how genetics is part of the toolkit**
- 12:40 Summary and lunch
- 15:30 PhD defence of Anouk van Breukelen in Omnia, building 105  
**Breeding climate smart dairy cattle: from phenotyping to genetic selection for low methane emitting cattle**

If you would like to follow the symposium and the PhD defence of Anouk, please send an email to [wlrsecgenomics@wur.nl](mailto:wlrsecgenomics@wur.nl) and you will receive a link to follow the live broadcast online.