

# SPOTLIGHT ON Utrecht University Veterinary Medicine

Advancing animal health and welfare through research

## Sustainable Ruminant Health at Utrecht University

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### A National, European, and Global Challenge

A global increasing consumption in the low- and middle-income countries, as well as an established consumption in the high-income countries, leads to an increased demand for animal protein and an immense use of natural resources. With the current livestock production systems, this resource claim leads to reduction of biodiversity, ecosystem imbalances, and large emissions of greenhouse gases (GHG). Globally, the agricultural sector emitted about 24% of all GHG in 2016 in between the energy (35%) and transportation sector (14%). The total global livestock sector accounts for 14.5% of all human-induced emissions. Driven by a need to decrease the total livestock emissions, the historical focus on maximization of food production through low-input, high-output farming must transition to a more sustainable approach of agriculture. At the European level, the agricultural sector has committed toward the United Nations Sustainable Development Framework. In the Netherlands, circular agriculture has become a political target since early 2019, illustrating the Dutch ambition to become a global innovator in transitioning toward sustainable agriculture.

### Sustainable Ruminant Health

Animal health and welfare play a crucial role in sustainable livestock system. The Sustainable Ruminant Health group (Faculty of Veterinary Medicine) aims to keep ruminants healthy in a changing agricultural landscape toward more sustainable production systems. Our group works at the front of development of ruminant health care adapted to current circumstances and social needs from multiple perspectives.

#### People

Our motivation is to produce food of animal origin for human consumption in a responsible manner. Healthy products originate from healthy animals that are kept in a responsible manner and have good welfare. Livestock farming that does not strive for the best possible animal health and welfare is not sustainable. Animal health and welfare are primary drivers of veterinary medicine. Our group performs research to prevent

animals from getting sick through preventive and, when unsuccessful, curative medicine as illustrated by 2 recent PhD projects on lameness in dairy cows (by Peter Hut and Arne Vanhoudt, PhD students). Animal husbandry should not impose irresponsible risks for human health. Public support is indispensable for every industry. In the Netherlands and in many places around the globe, the license to produce is rapidly changing and societal acceptance of animal husbandry cannot be ignored.

#### Planet

In the present time, climate and the environment are often the first points that come to mind when talking about sustainability. The attention to this subject is justified; global warming is undeniable. Although there is debate about the extent to which different industries contribute to climate and environmental change, it is certain that ruminants will have to operate within new requirements. Cattle farming can potentially make a positive contribution to this by making efficient use of cropland and nonhuman edible crops through the production of high-quality dairy and meat protein.

#### Profit

Business economics obviously is an important driver in dairy farming as in any other business. In order to be able to produce animal protein in a sustainable way, economic aspects must be taken into account at animal, farm, and population level (PhD project of Yong Yan Chen, PhD student). On top of that, the economics of the veterinary profession is of vital importance. In order to be able to generate added value in the production chain of animal protein, veterinarians must be able to earn an income in this and the other way around. We aim to train people for a profession that is (also in the long term) attractive in terms of content and with which one can generate an income (LifeLongLearning course; <https://professionals.uu.nl/nl/cursus/sustainable-ruminant-health-0066c>). An important aspect of this is delivering added value for the veterinarian's customer, whoever that is.

In line with the mission of the Utrecht University and Faculty of Veterinary Medicine, the Sustainable Ruminant Health group contributes to each of these aspects through research and education on ruminant health and welfare, contributing to a more sustainable livestock farming.

