

Switzerland:

Update of research on methane mitigation
related to feed and nutrition

Angela Schwarm

New projects and initiatives in the field of the FNN

- Experimental dairy cow house for measuring GHG emissions under different housing (and feeding) conditions (Agroscope)

Quantification of the reduction potential of structural, process engineering, organisational and nutritional strategies to reduce (NH₃ and) CH₄ emissions in practical scale under Swiss dairy farming conditions.

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- Experimental dairy cow house for measuring GHG emissions under different housing (and feeding) conditions (Agroscope)
- Establishment of Eddy Covariance, SF₆ and GreenFeed technologies at Agroscope
- Approval of a metabolism center operated in collaboration of ETH Zurich, University of Zurich and Agricultural School Strickhof (with chambers)

Status quo:

2 large, 2 medium, 2 small chambers

2017:

4 large,

4 medium,

4 small chambers

PhD projects:

1. Changes in methane emissions with age (up to 8th lactation)

If there is no substantial increase in enteric methane yield with age, lifetime methane emission intensity will decline with the length of productive life as the proportion of emissions from rearing decreases.

2. Association between methane emission, energy balance and immune response in peripartum high-yielding dairy cows

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- CH: Member of COST Action “Large-scale methane measurements on individual ruminants for genetic evaluation (Methagene)” (headed by Yvette de Haas)
- Methane emission of non-ruminant livestock (camelids, ostrich, horse etc.)

Methane Emission by Camelids

Marie T. Dittmann^{1,2*}, Ullrich Runge³, Richard A. Lang⁴, Dario Moser⁵, Cordula Galeffi⁶, Michael Kreuzer², Marcus Clauss¹

Camelids release less methane than cows and sheep of comparable body size, but this only because of a correspondingly lower metabolism/feed intake.

Calculations of GHG budgets of countries with large camelid populations based on equations developed for ruminants are generally overestimating the actual levels.