

Global Network Research Activities in Finland

Natural Resource Institute Finland (Luke)

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Two experiments:

- 1. Genetic control of rumen microbiome, feed efficiency and methane emissions in lactating dairy cows**
 - Five low and five high methane emitter cows:
 - were selected from 100 cows measured in RUMINOMICS project: Summer 2014
 - Fitted with Fistula: Autumn 2014
 - Study just ended: June 2015
- 2. Between-animal variation in nutrient digestibility, digestion kinetics and methane production in dairy cows offered three different diets**
 - To be started in Autumn 2015



Total faeces and urine collection



Rumen evacuation



Methane measurement
(ruminal SF₆ technique)

Respiratory chambers



Flow meters

Cow inside chamber

Sampling pump and analyzers

Methane database

- Compiling data from 2 studies with chambers:
 - Intake, digestibility, N metabolism, methane, rumen fermentation, milk fatty acid
- First study: 100 cows (one period; mid-lactation)
- Second study: 16 cows (three periods; early lactation)

Some statistics

	Average	Min	Max
BW (kg)	675	499	847
DIM	111	11	240
DM intake (kg/d)	23.7	16.7	33.5
Milk yield (kg/d)	37.4	15.5	51.4
OM digestibility (%)	71.0	61.9	78.7
Methane (g/d)	517	300	701

Thank you!

Luke research barn:

<https://youtu.be/D93-gvBkgeQ>

