Rumen physiological studies

Aim

- Effect of:
  - roughage quality
  - concentrate composition and allowance
  - additives
- On rumen parameters:
  - pH
  - volatile fatty acids
  - utilisation of nutrients

Observations

- Samples of rumen fluid:
  - pH
  - volatile fatty acids
  - ammonia
  - markers
- Continuous pH measurement
  - every minute
  - time pH < 5,5
- Rumination activity:
  - every 2 hours

Lay out

- Latin square:
  - 2 to 6 treatments
  - 2 to 6 rumen fistulated dairy cows
  - 2 to 6 periods (3 weeks)

Execution

- Rumen physiology:
  - sampling of rumen fluid
  - continuous measurement of pH
  - rumen contractions
  - passage and absorption
  - Rumination and general activity
- Others:
  - DM intake basal diet and concentrate
  - milk production and weight
  - milk composition
  - faecal score and composition

Results

- Concentration of volatile fatty acids
  - Acetic acid
  - Propionic acid
  - Butyric acid
  - Other

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