# Methane Contrasting Groups In Three Sheep Breeds In Uruguay

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## Introduction

Variability of methane (CH<sub>4</sub>) emission in sheep and impact of selecting low emitting individuals are investigated as part of greenhouse gas mitigation strategies.

## Aim

Explore these associations by comparing the performance of animals classified by CH4 emission

## Material and Methods

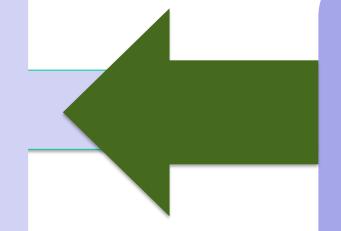
Data of CH<sub>4</sub> emissions of 494 animals born between 2018 and 2020, sired by 29 rams was portable collected using accumulation chambers



218 Corriedale 68 Texel 208 Dohne Merino

CH<sub>4</sub> emission groups

Low (<25%) Medium High (>25%)



CH4(g/d) = sex-pen-trial +animal + date-hour

The effect of CH<sub>4</sub> group on different traits was estimated with a linear model that included age, type of birth and sex-pen-trial as fixed effects.

The analyzed traits in this trial were related to:

#### Feed Efficiency

• Feed Intake • Residual Feed Intake (RFI)

- (ADG)
  - Metabolic Weight (MWT)

### Growth

- Average Daily Gain
  - (FT)

• Rib-eye area (REA) Fat thickness

Carcass

Quality

#### Feeding Behavior

 Number of meals

### Wool

 Staple Growth (SG)

## Results and Conclusions

- CH<sub>4</sub> group had a significant effect (p<0.05) on feed intake, ADG and MWT in all breeds.
- · High emitters were heavier, had higher ADG, and ate more.
- A significant effect on number of meals was reported in Texel (low CH<sub>4</sub> emitters had lower number of meals compared to high emitters).
- Non-significant differences (p>0.05) were observed on RFI, REA, FT and SG in any breed.

More research will contribute to increase the number of animals tested, leading to more a comprehensive description of associations, including genetic and phenotypic correlations, being also the basis for economic impact studies.



