

Short term measurements to estimate methane emissions by beef cattle using the GreenFeed monitoring unit

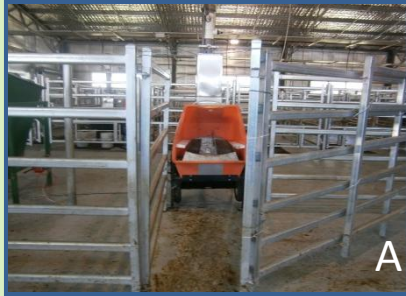
Jl Velazco^{1,2,3}, G Bremner¹, L de Barbieri^{1,2}, RS Hegarty¹

¹University of New England, AUSTRALIA

²National Agricultural Research Institute (INIA), URUGUAY

³ Corresponding autor: jvelazco@myune.edu.au

The aim of the experiment was to test the capability of the GreenFeed (GF) unit (A) to estimate daily methane emissions in comparison with a prediction method based on daily intake (B).

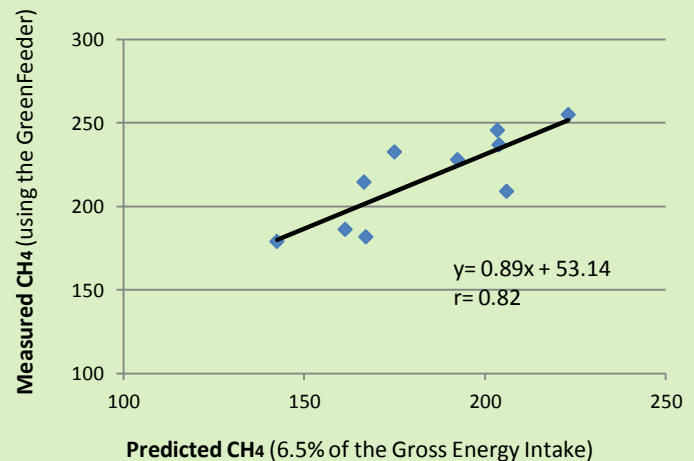


Materials and Methods

- 10 Angus steers (365.2 ± 50 kg) were adapted to the diet, GreenFeed (GF) unit and facilities for 3 weeks
- The diet (lucerne & cereal **chaff**) was offered ad libitum and intake recorded using an automatic feeder.
- Methane emissions were **predicted** based on dry matter intake as suggested by the IPCC.
- Pellet delivery (attractant) at the GF was set to allow each animal access to six 30 g pellets releases per feeding session with a minimum delay of 4 h between feeding sessions (0.9 kg/a/d).
- Methane emissions and pellet delivery were **measured** using the GF.
- Six consecutive three-day periods were used to estimate emissions and intakes.

Results

Correlation between individual measured and predicted daily methane emissions (g/d)



Conclusions

Short-term measurements made using the GF unit **can be used** to estimate CH₄ emissions in an animals' production environment. This creates **opportunities** for ranking individual animals and for testing diets under grazing conditions.