



Collection of Enteric Methane Data

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Sheep Ireland Industry Meeting, 11th December 2025

Why measure methane in sheep?

- Increasing efficiency, productivity and profitability in the national flock
 - Identify high and low emitters in the flock

- Refine Irelands inventory values

- Reach our national environmental targets
 - 2030 - Reduce Irish Agricultural GHG emissions by 25%



- Develop breeding values for methane



The screenshot shows a news article from the Beef + Lamb New Zealand website. The headline reads "Sheep farmers now able to breed "low methane" sheep". The article states: "In a world first, New Zealand sheep farmers now have the ability to breed animals that emit less methane." Below the article are social media sharing icons for Facebook, Twitter, and Email.



Beef + Lamb New Zealand (B+LNZ) Genetics has launched a "methane research breeding value". Breeding value (BV) is a term used to help select important traits that ram breeders want to bolster within their flock (e.g. low methane-producing animals).



Methods of measuring methane

PAC



Respiration
chamber



GreenFeed



SF₆



Portable Accumulation Chamber (PAC)



Methane measurements collected using PAC



Animals in good grass > 5cm



Removed from feed 1 hr prior



Live-weight recorded



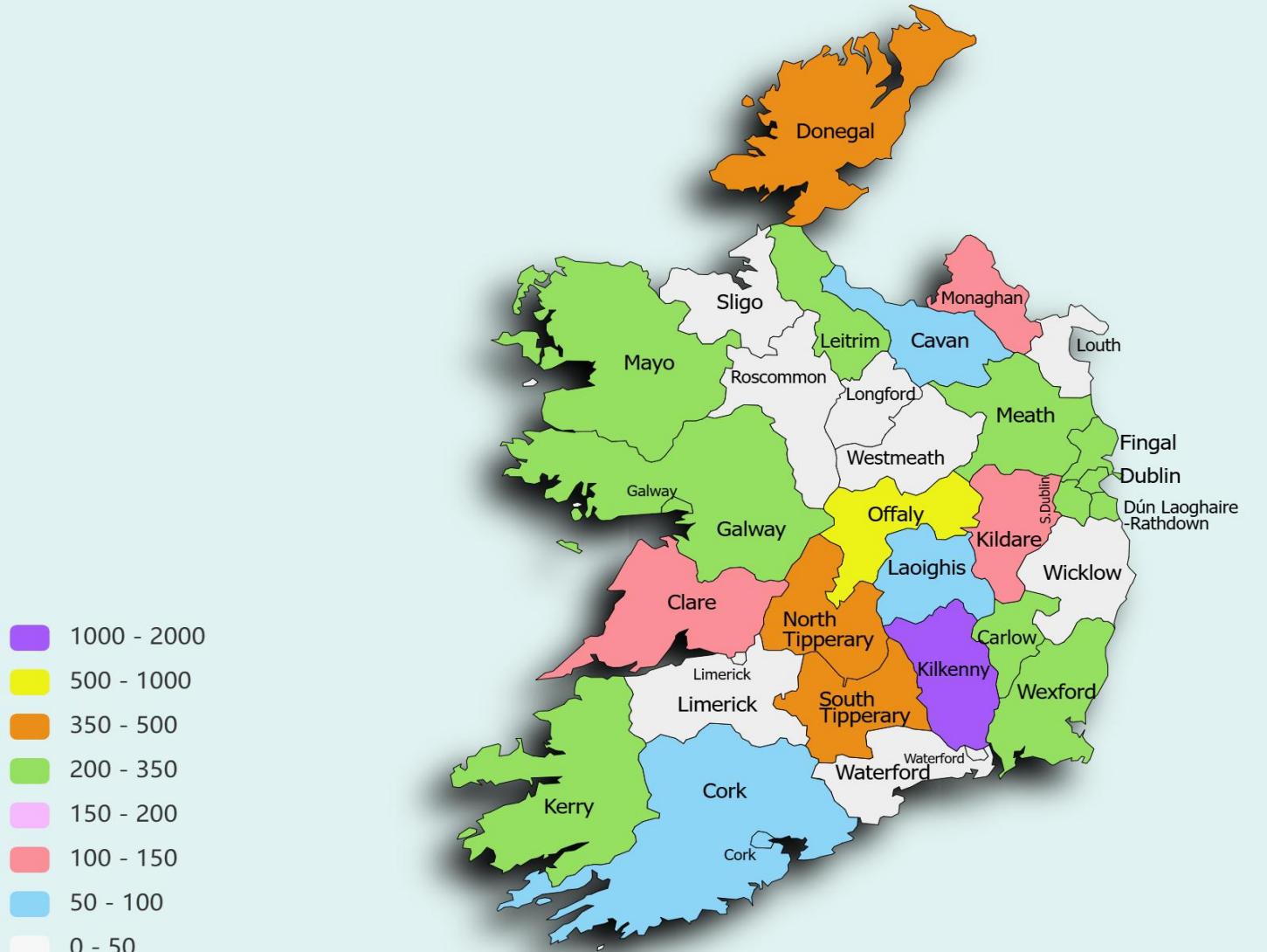
PAC 50mins



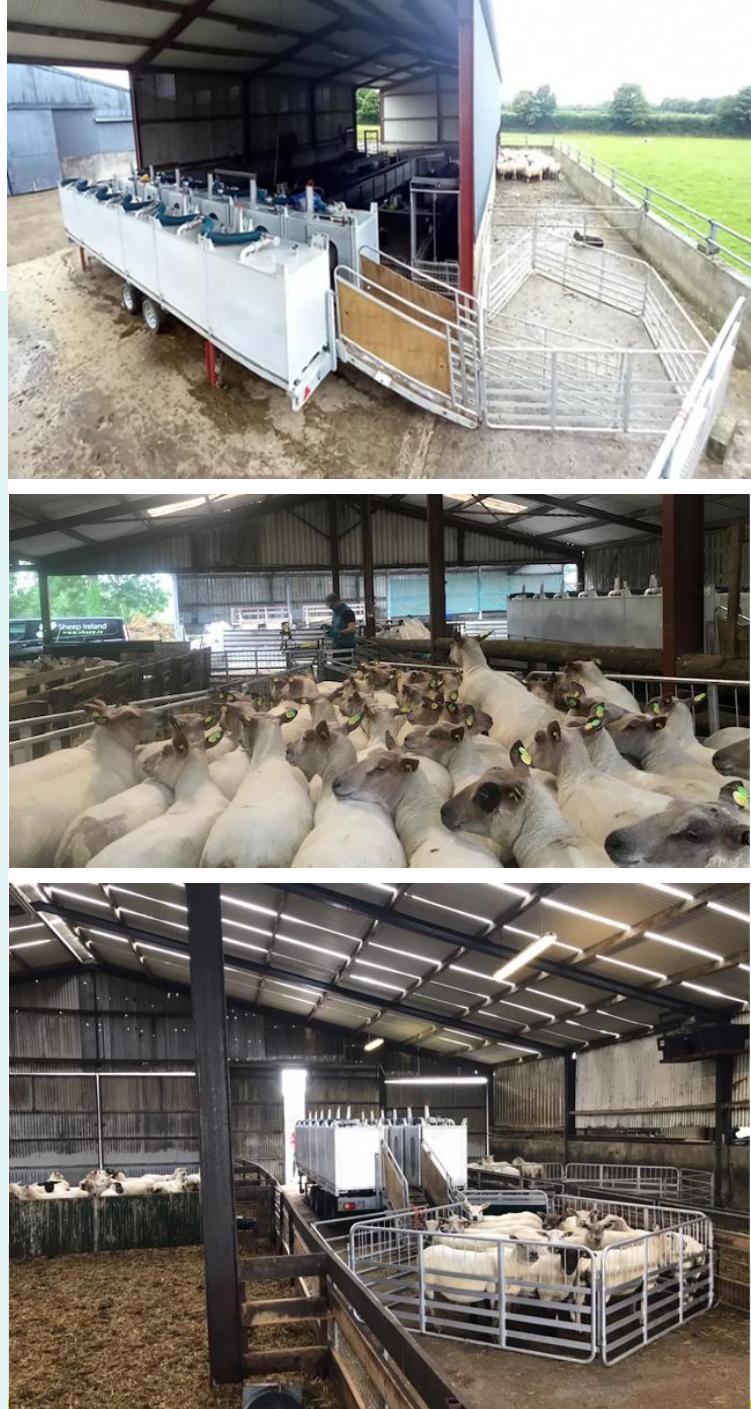
CH_4 , CO_2 and O_2 at 0, 25 & 50 minutes



Farms visited to date



Created with paintmaps.com



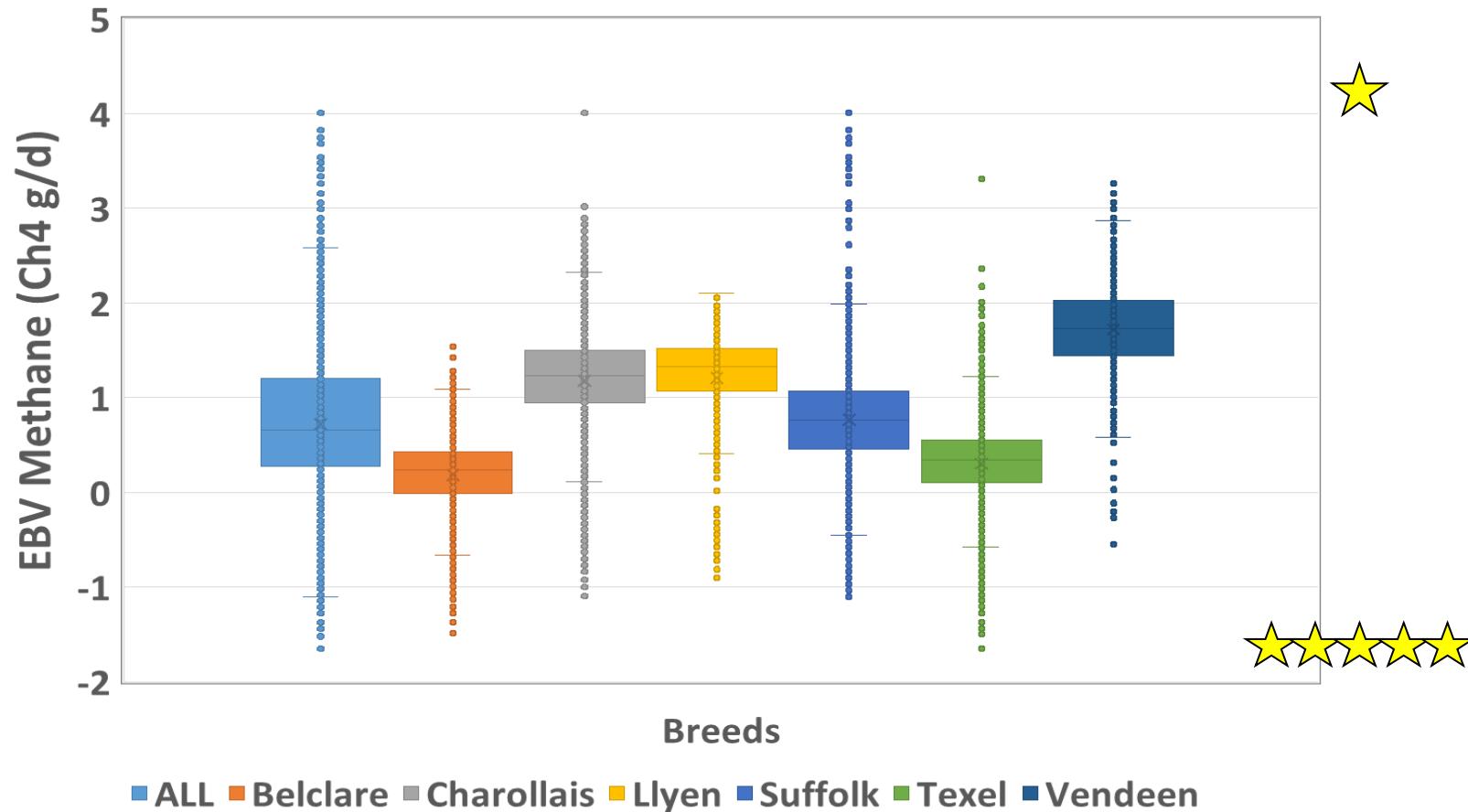
Genetics of methane

Variation between animals for methane?

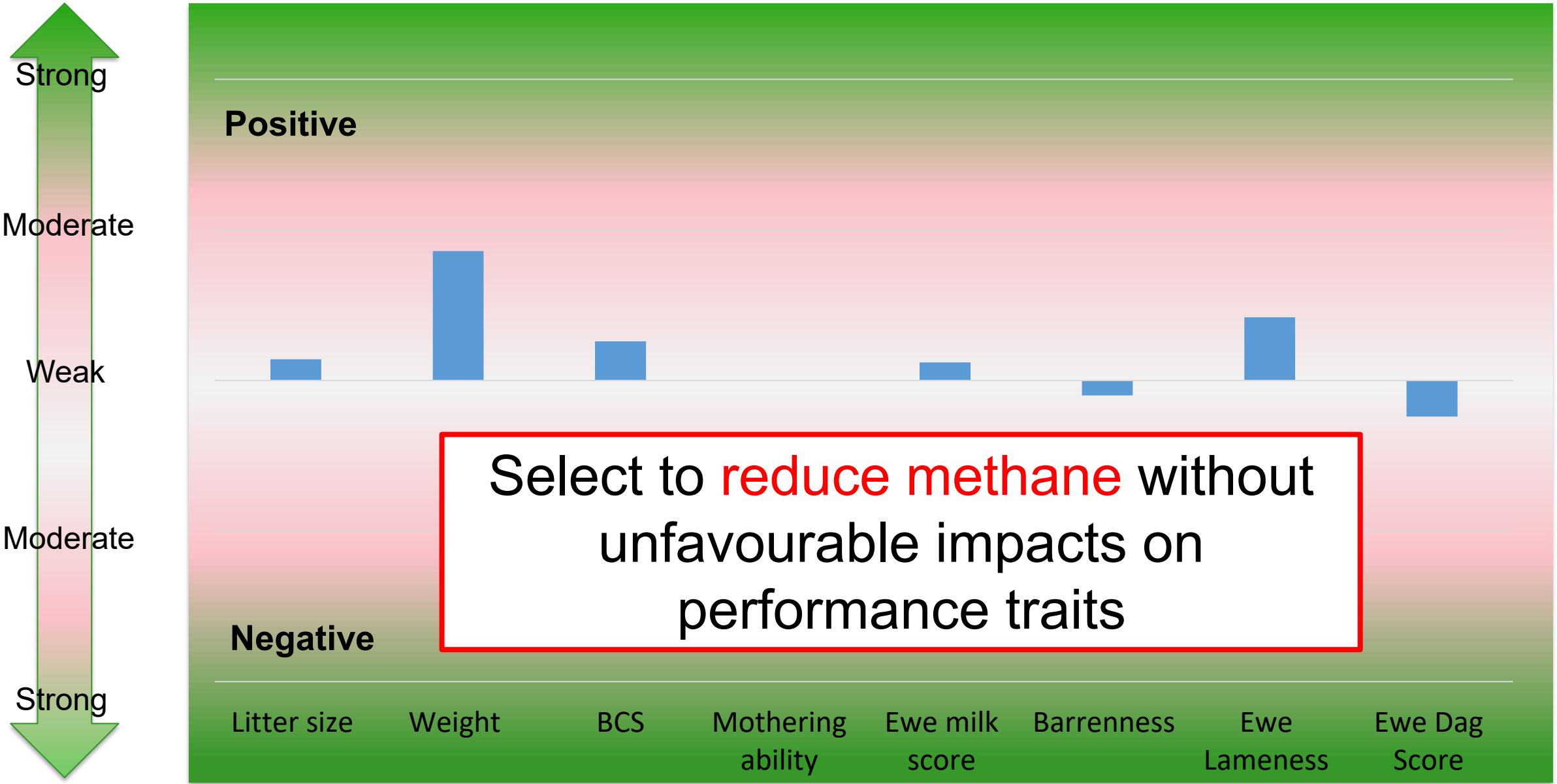
Records available ~19,000

Results to date:

- Heritable → 18 to 31%
- Repeatable → ~35%



Correlations with other traits





Thank you for listening!

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