Smarter

SMAll RuminanTs breeding for Efficiency and Resilience

Breeding for reduced GHG and increased efficiency: a win:win for the sheep industry

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www.sheep.ie

eagasc
Agriculture and Food Development Authority

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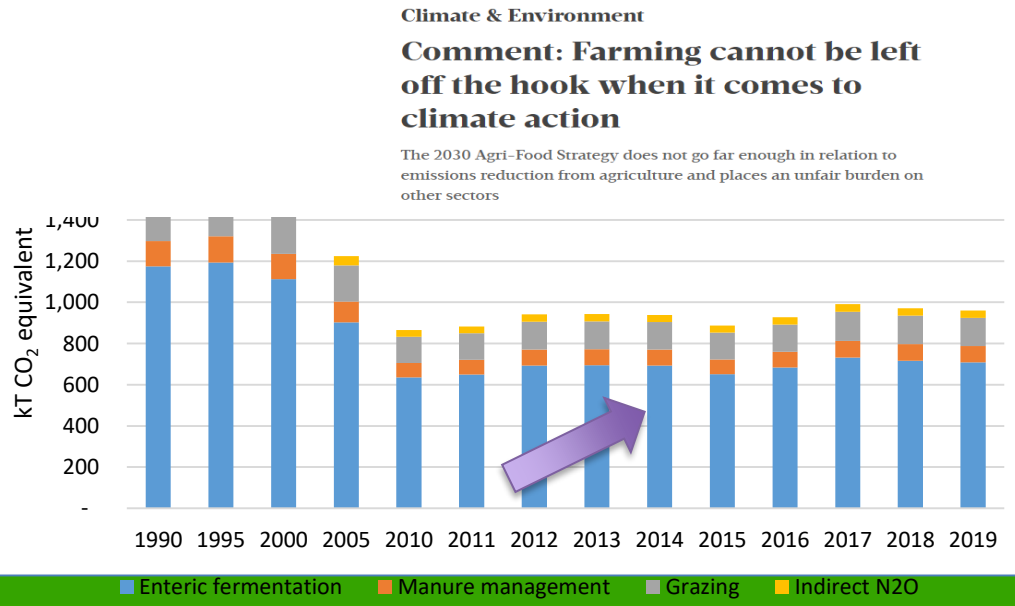
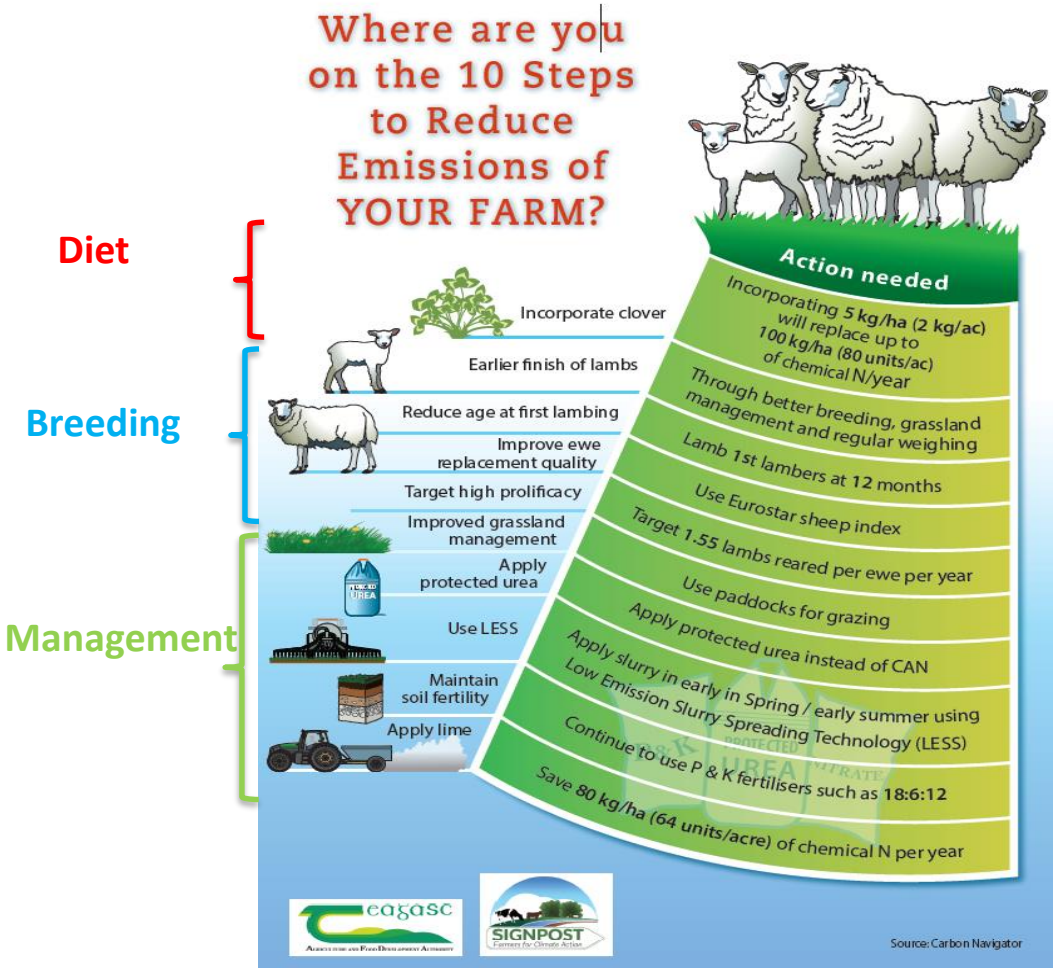
National GHG emissions

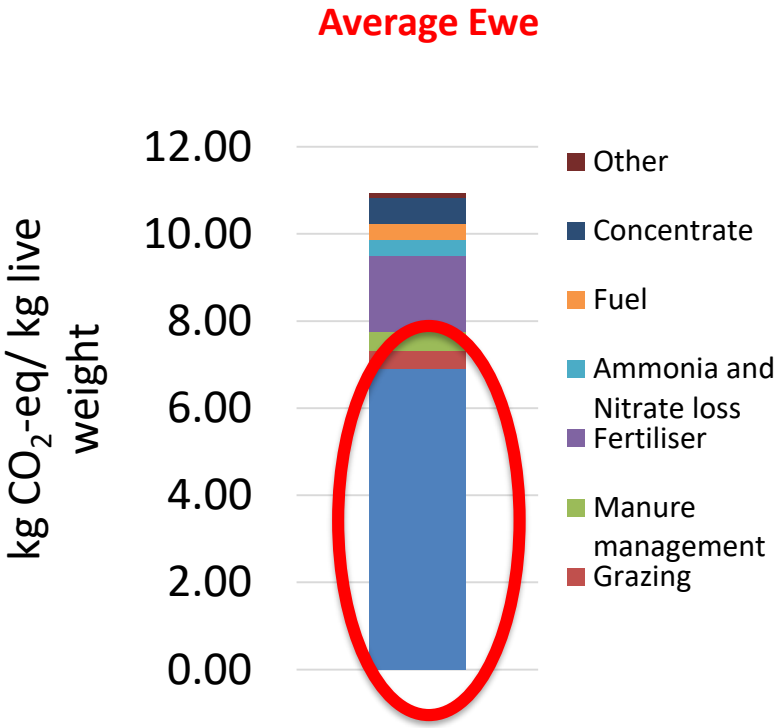
National agricultural emissions



- ~~27%~~ national GHG ions
- nated by cattle d emissions

Irish sheep industry

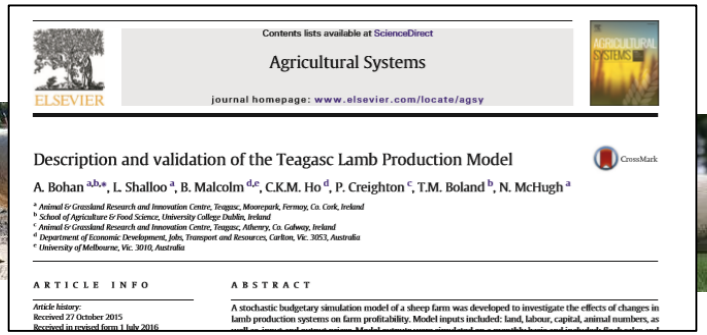




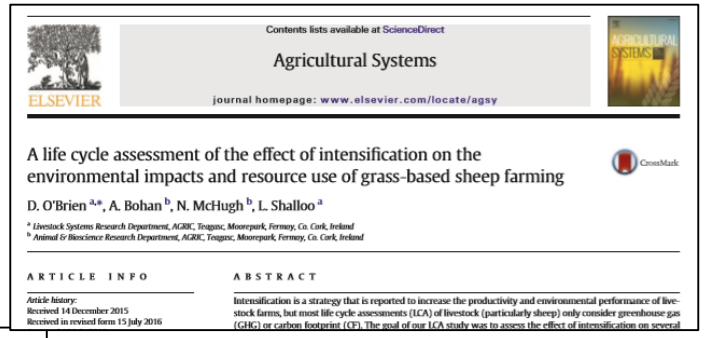
Breeding

Selecting on €uro-star indexes

1 Star Flock



5 Star Flock



1 Star Flock

257 ewes

DTS : 203

5 Star Flock

257 ewes

DTS : 190

Using CPT [illegible] ial data

+€18 per ewe

Greenhouse gas intensity

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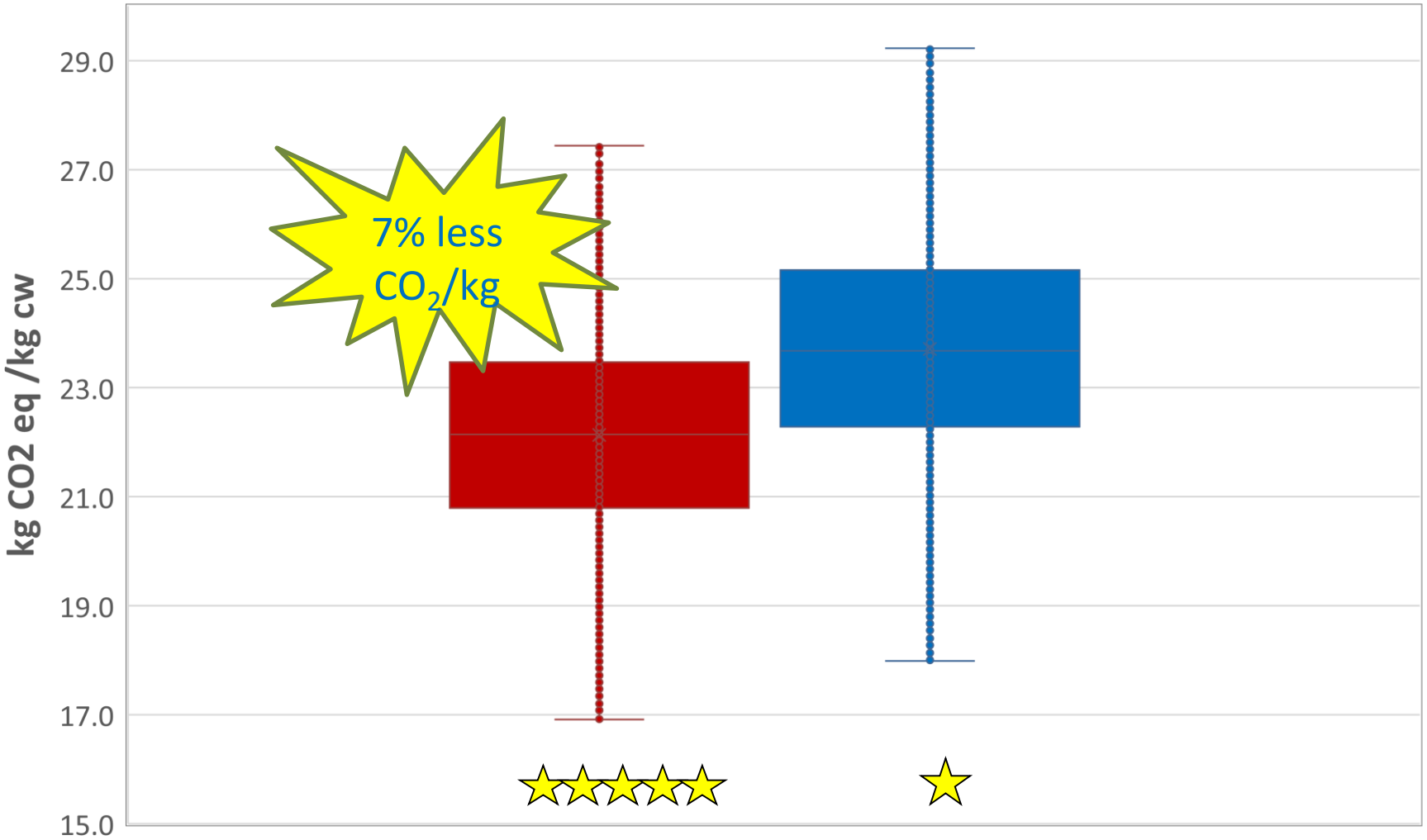
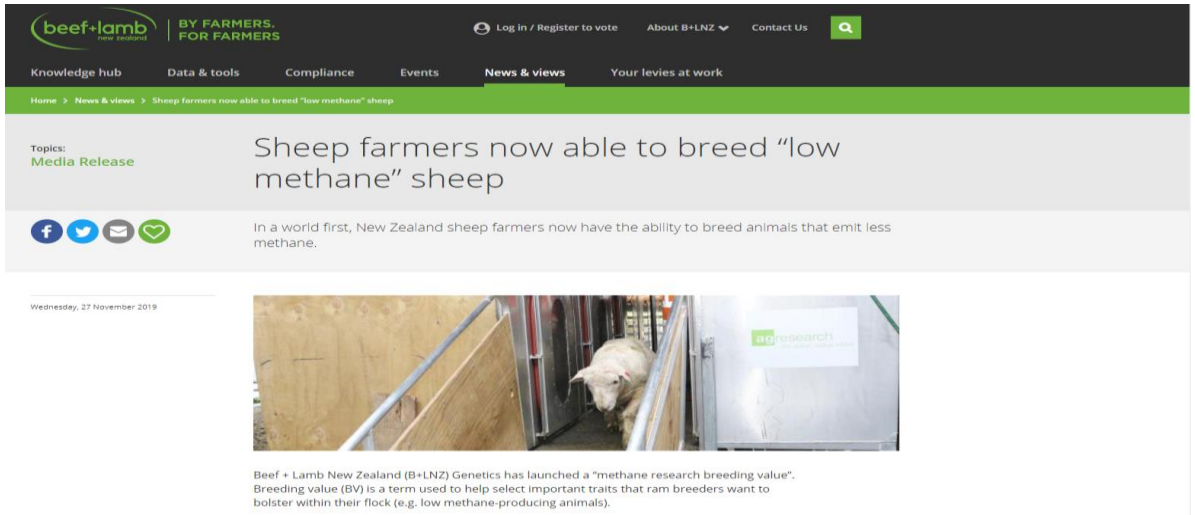


Direct Selection

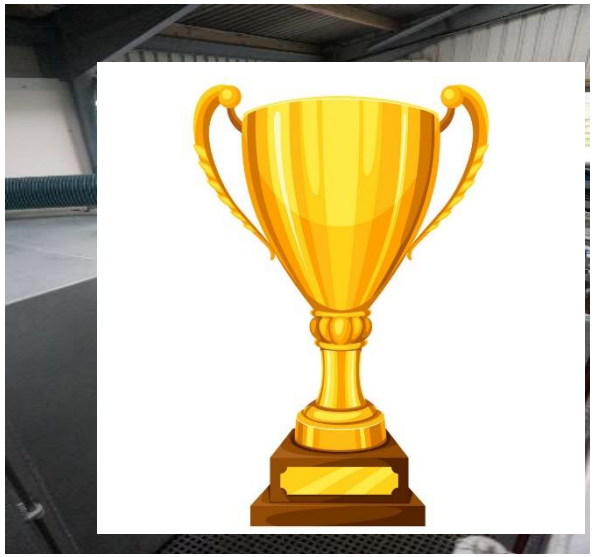
Why measure methane in sheep?

- Identify high and low emitters in the flock
- Develop breeding values for methane



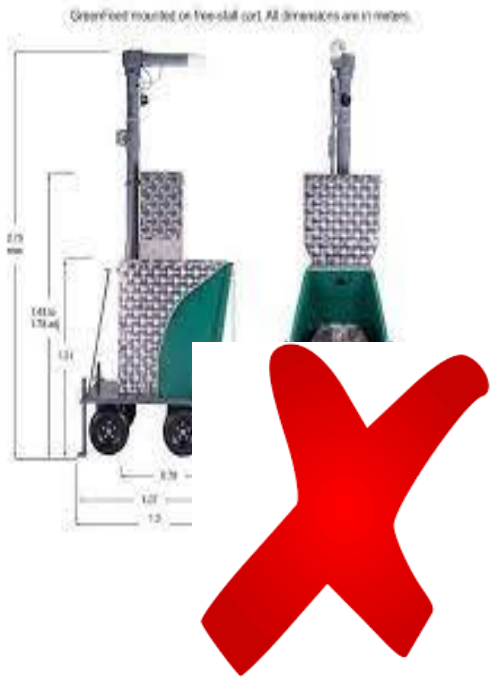
Methods of measurement

PACs

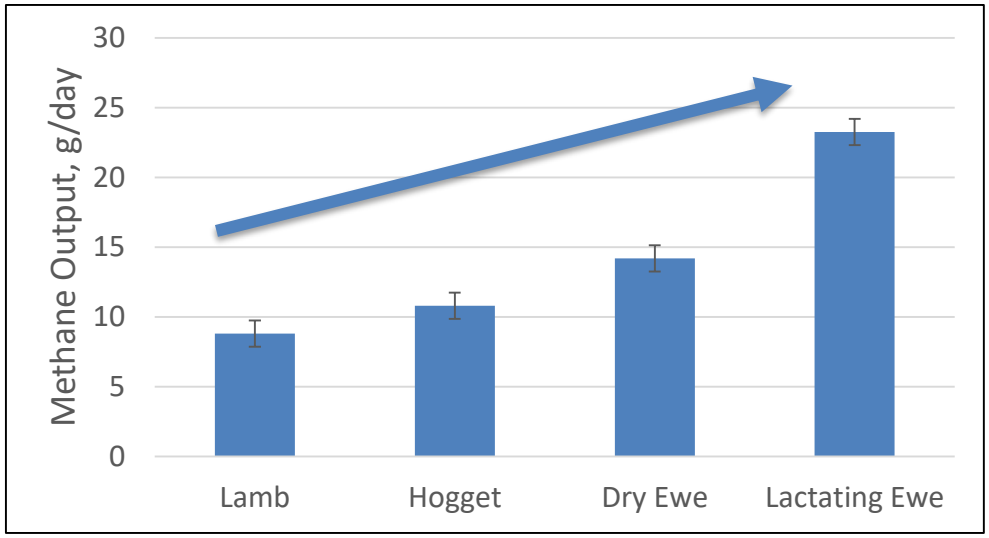


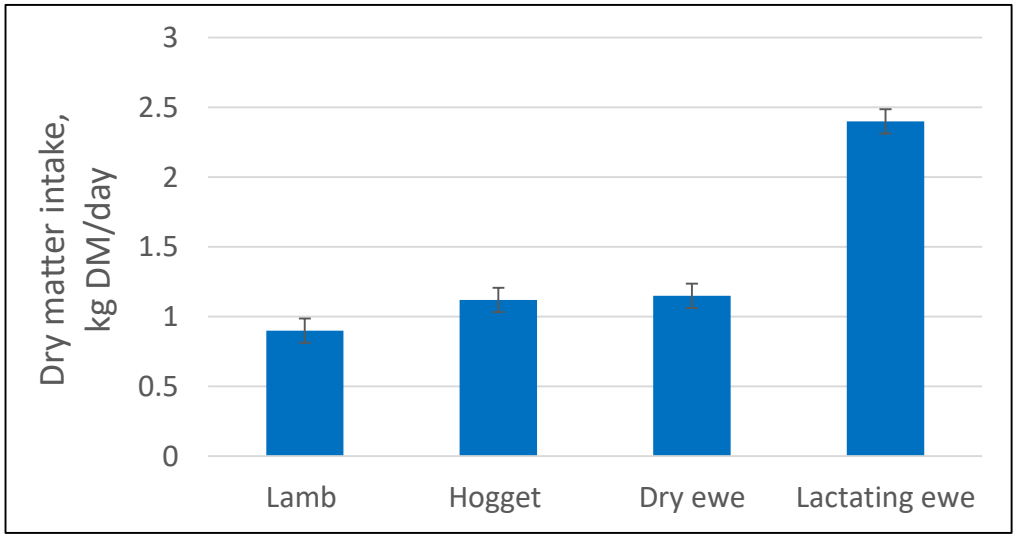
Respiration Chamber

GreenFeed



Methane output and DMI in sheep





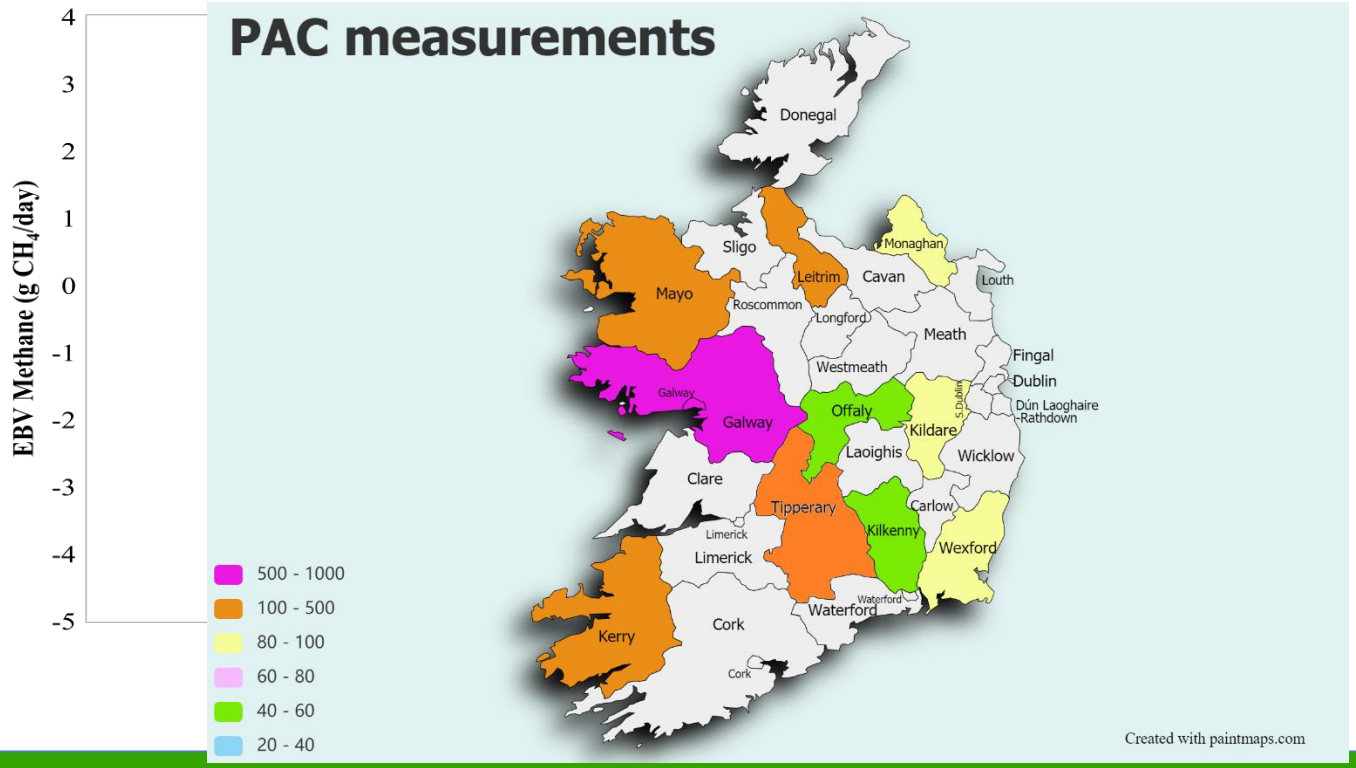
Results

Methane (g/day)	19.29	240	230

0.4-0.6 g CH_4 per kg live-weight

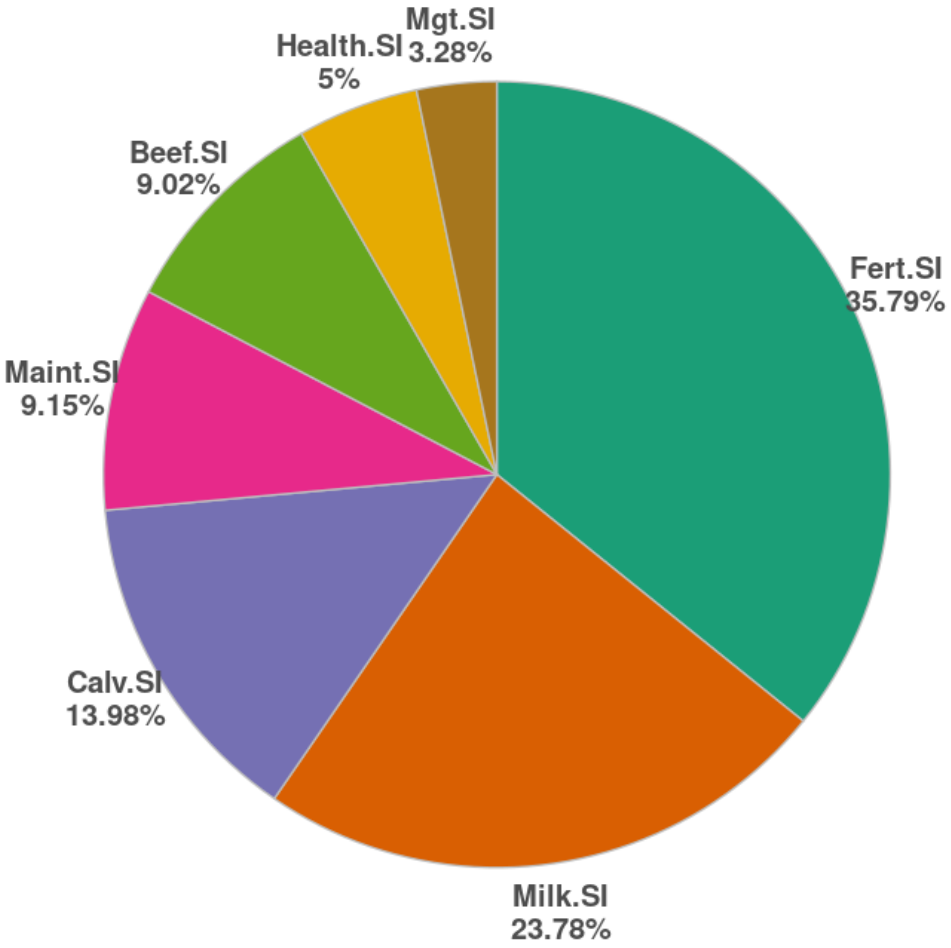
Genetics of methane

- Variation between animals for methane?
- Results to date:
  - Heritable → 25%
  - Repeatable → 39%

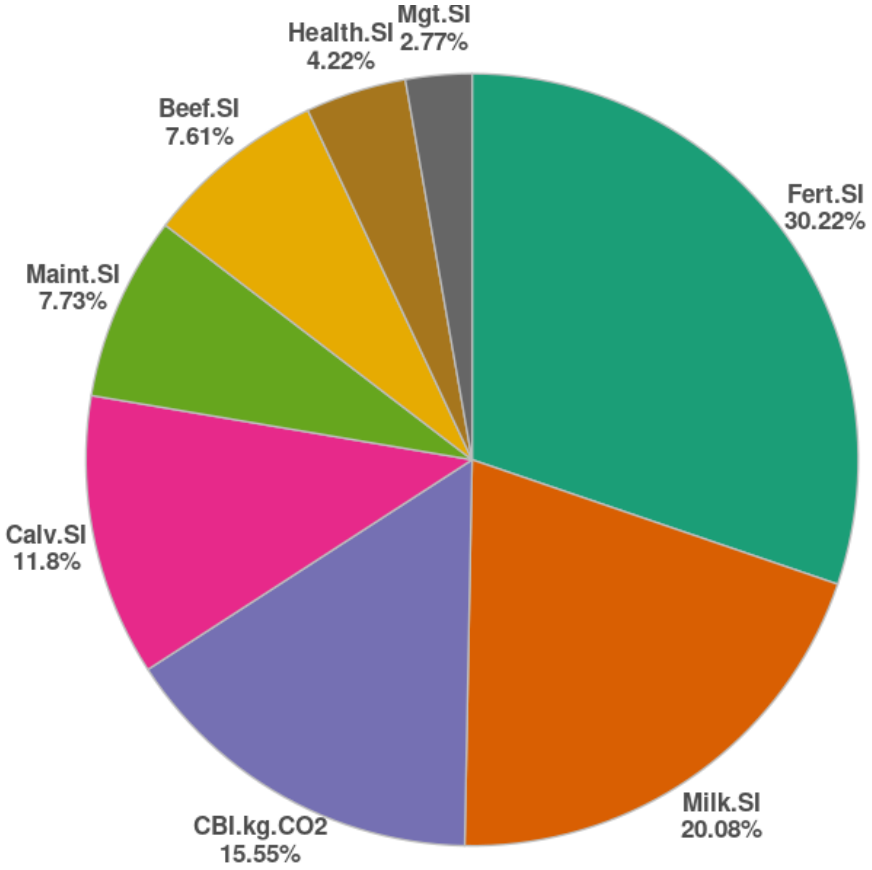


Carbon sub-index

Current EBI



EBI + CBI C @ €160/t



Take home messages

- Methane measurements underway in sheep
  - Measuring commercial & pedigree flocks
- Results to date methane is under genetic control
  - Link to production traits
  - breed low emitters with high levels of performance
- Carbon sub-index to be developed
- Incorporate into the Terminal & Replacement Indexes

SMARTER PARTNERS

Thank you for your attention

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