Reducing GHG and Increasing Efficiency, a win-win for the Sheep industry

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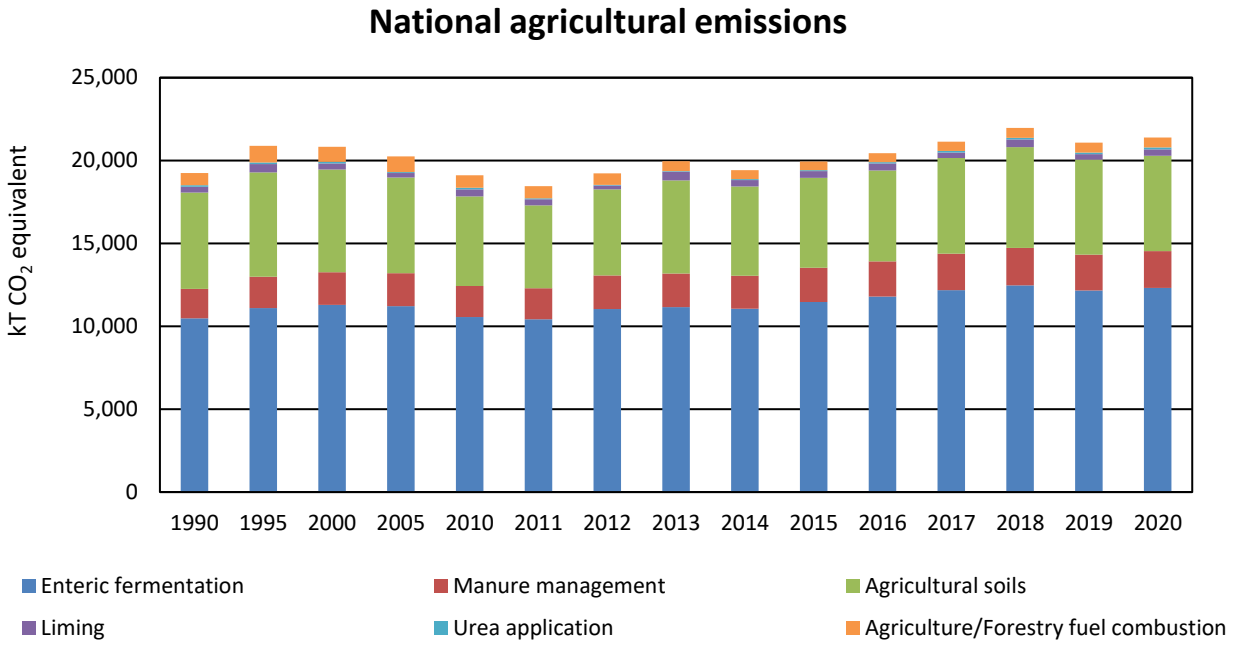
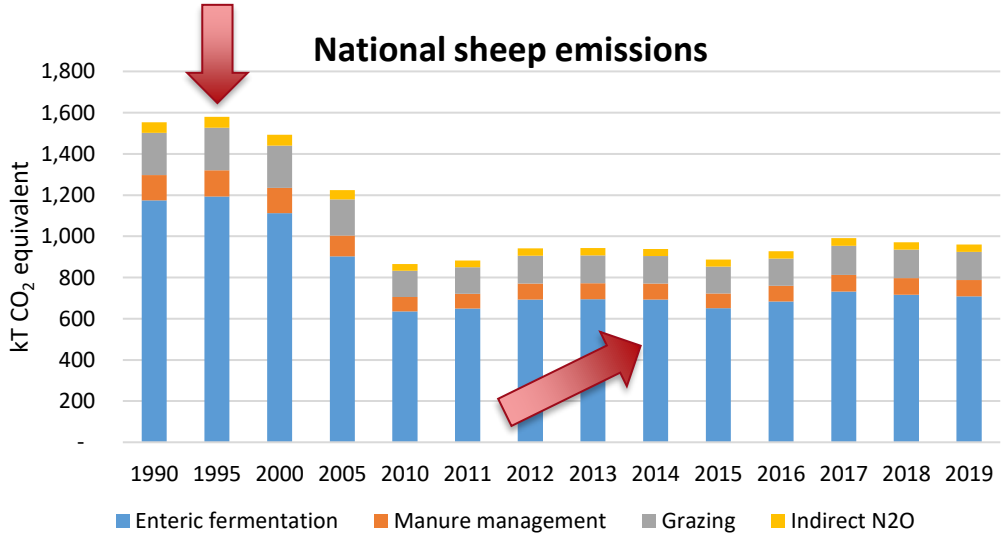
Sheep Ireland Meeting, 16th June 2022

National GHG emissions



- 37% national GHG emissions
- Dominated by cattle related emissions



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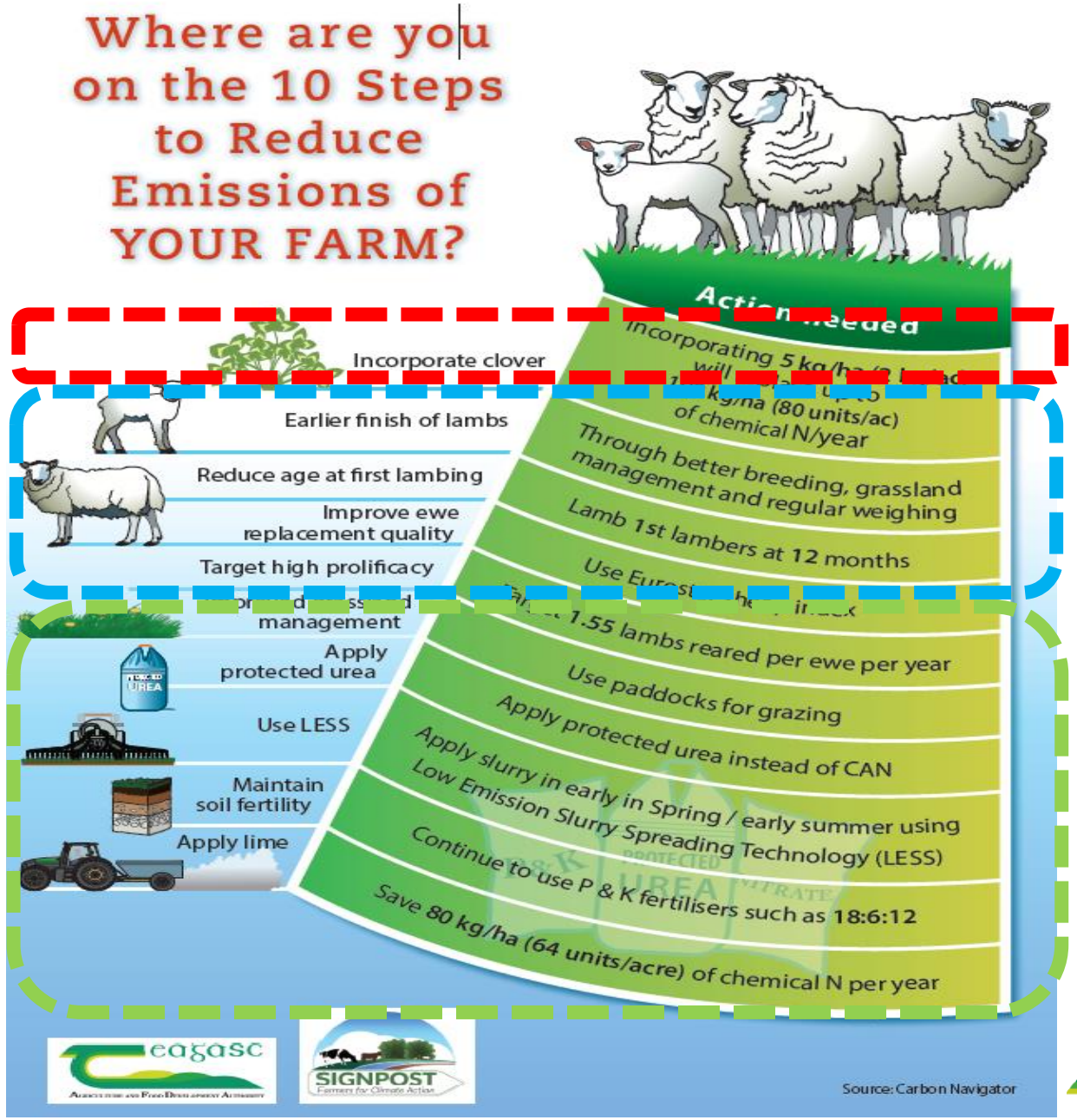
Diet

Breeding

Management



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Breeding

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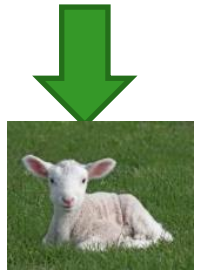
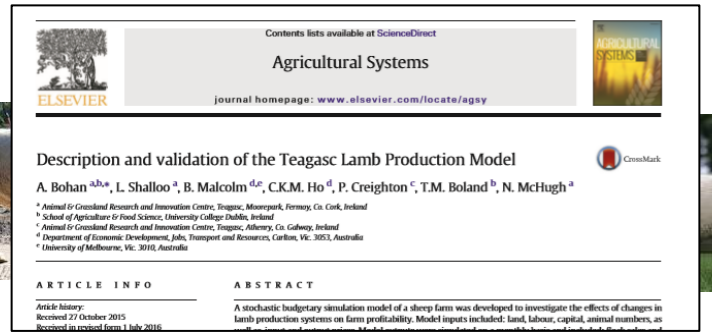
Selecting on €uro-star indexes

1 Star Flock

X



Weaning 1.54 lambs/ewe



5 Star Flock

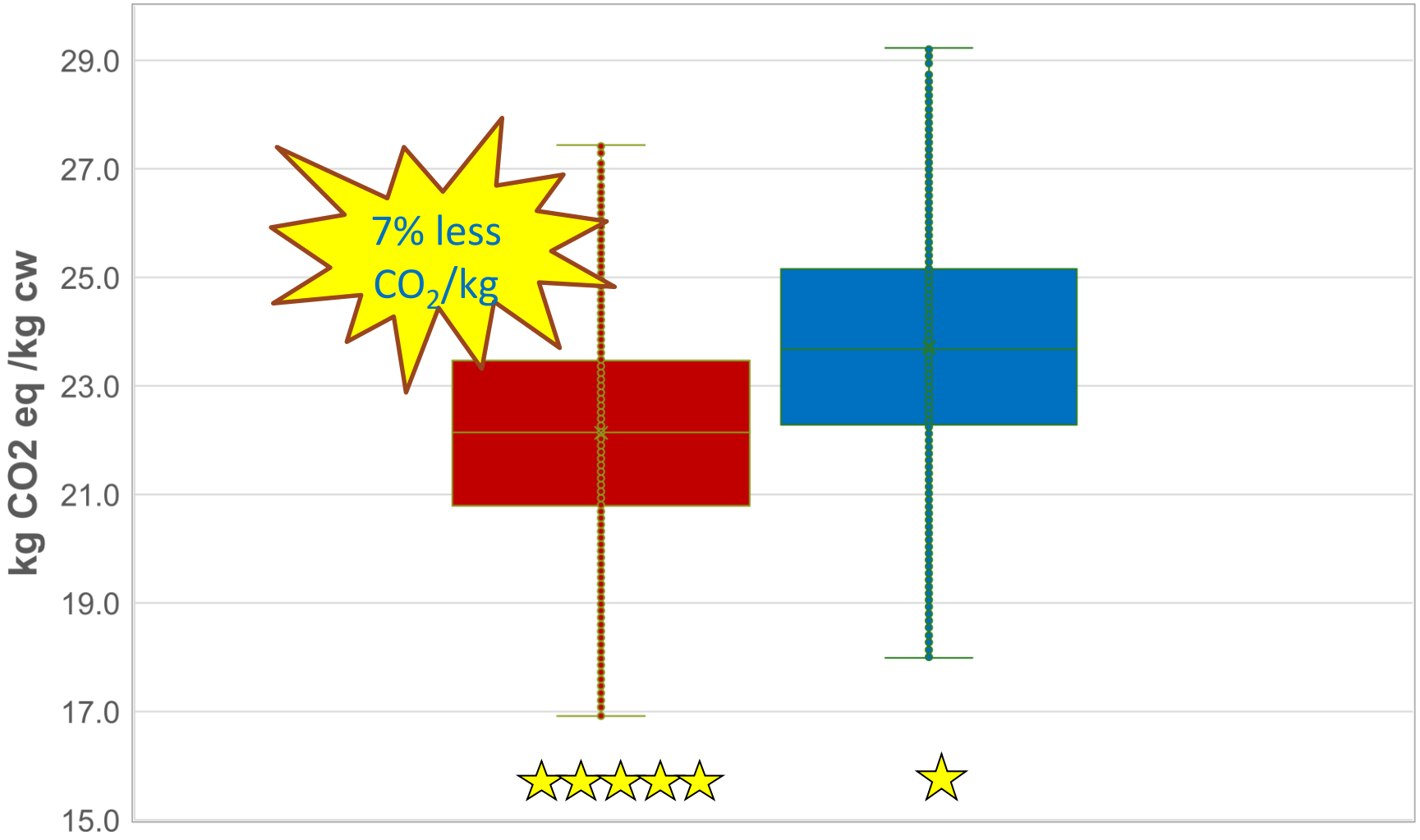
X

Weaning 1.70 lambs/ewe

Using CPT [illegible]rcial data

+€18 per ewe

Greenhouse gas intensity



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Direct Selection

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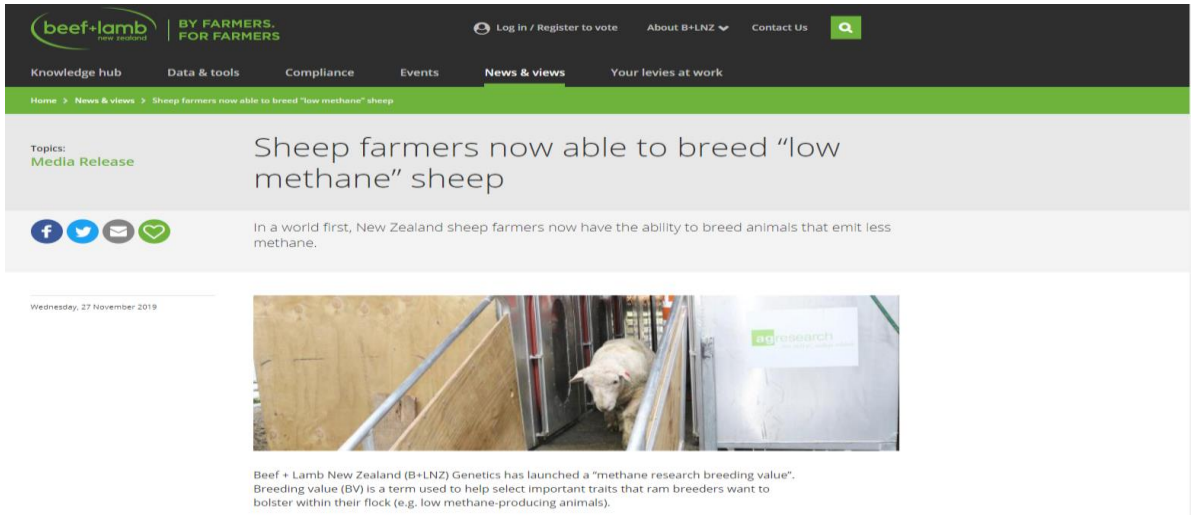
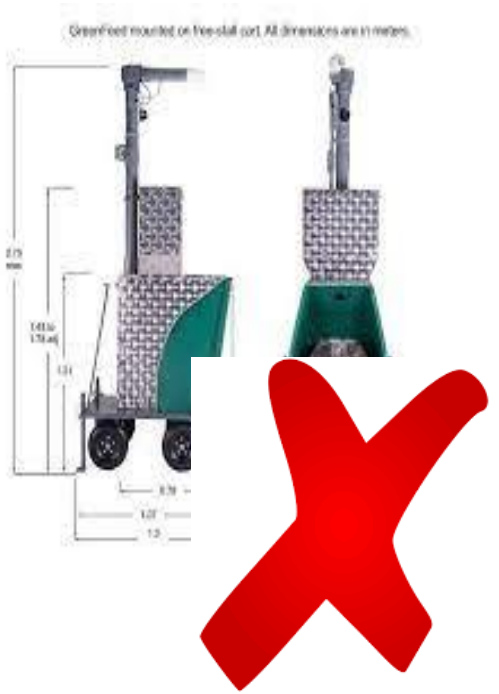
Why measure methane in sheep?

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



Methods of measurement

PACs	Respiration Chamber	GreenFeed



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PAC

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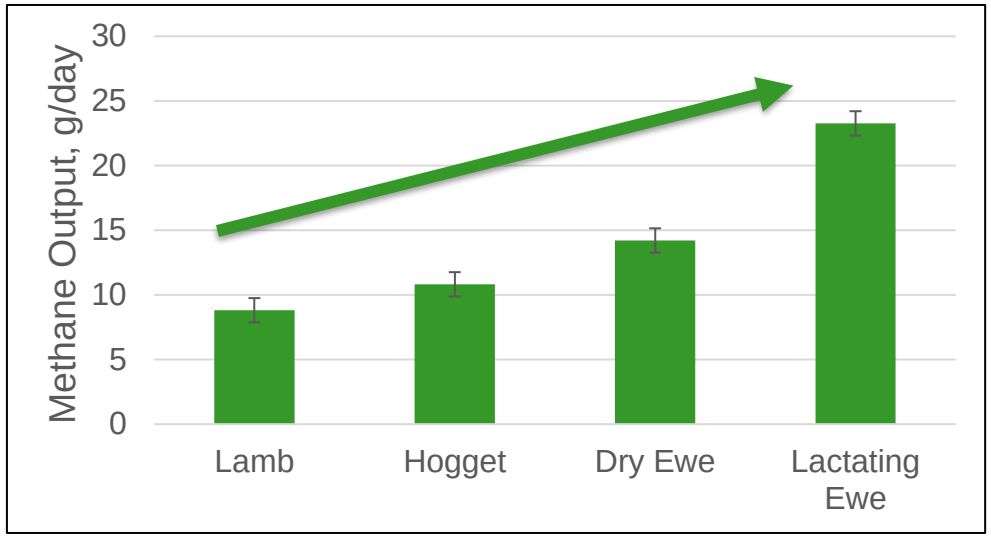
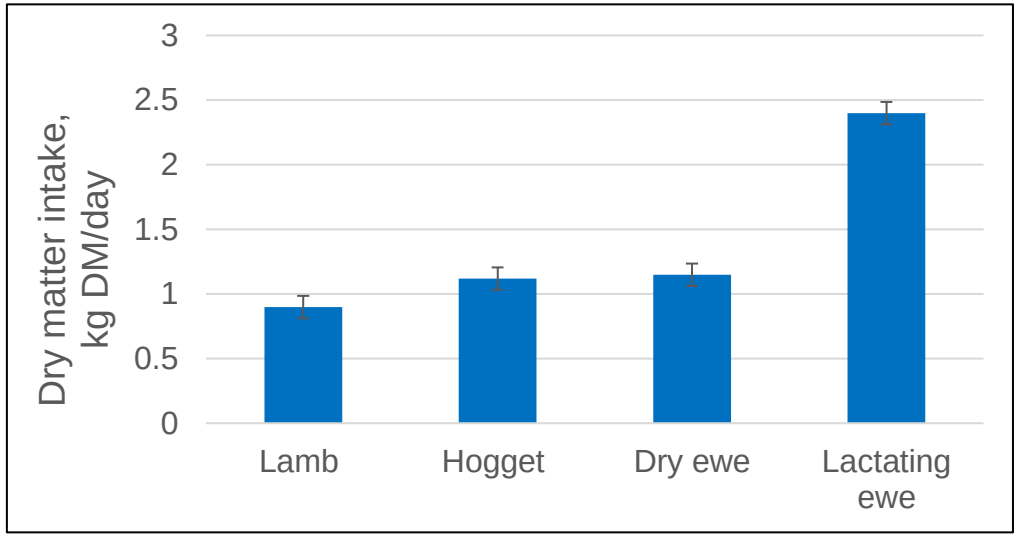
Methane output and DMI in sheep





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Comparing methane output from ruminants

Irish data (g/day)	330	230	29.5

0.4-0.6 g CH_4 per kg live-weight

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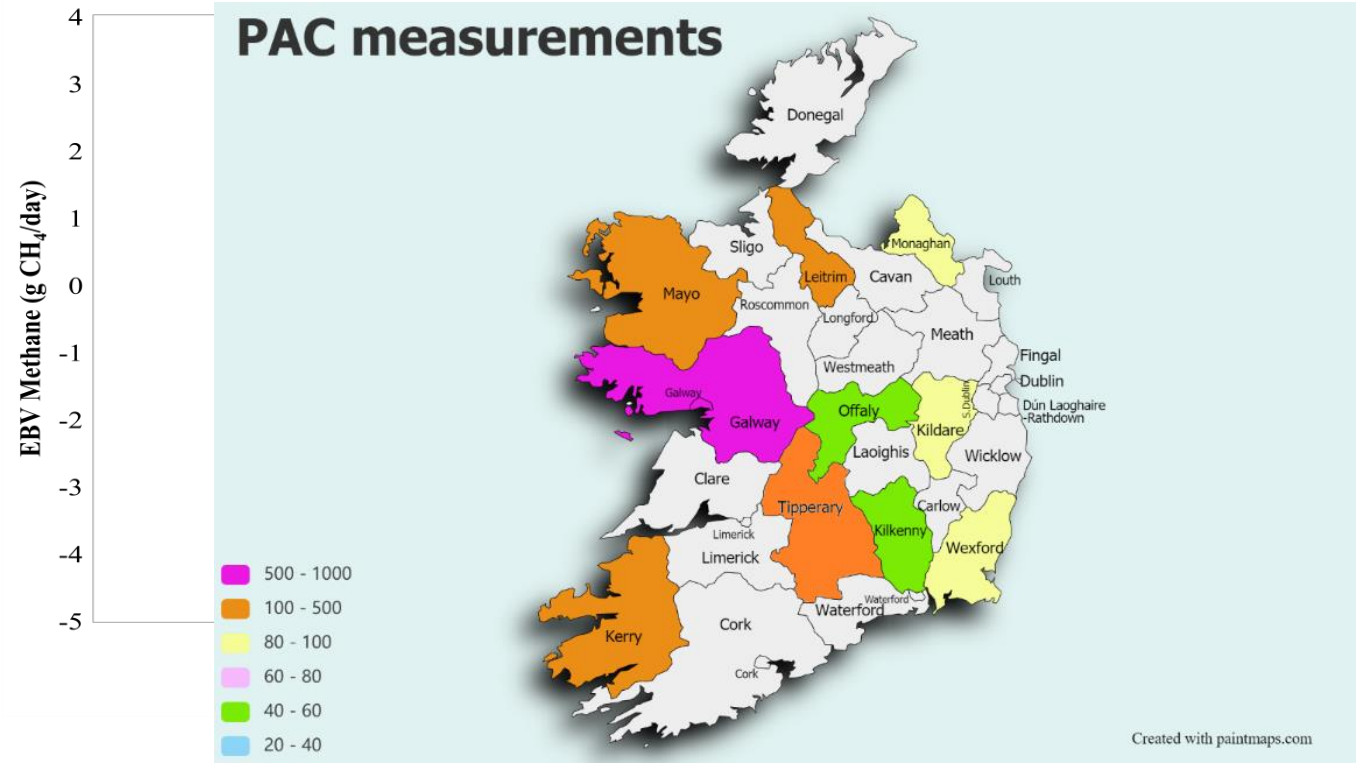
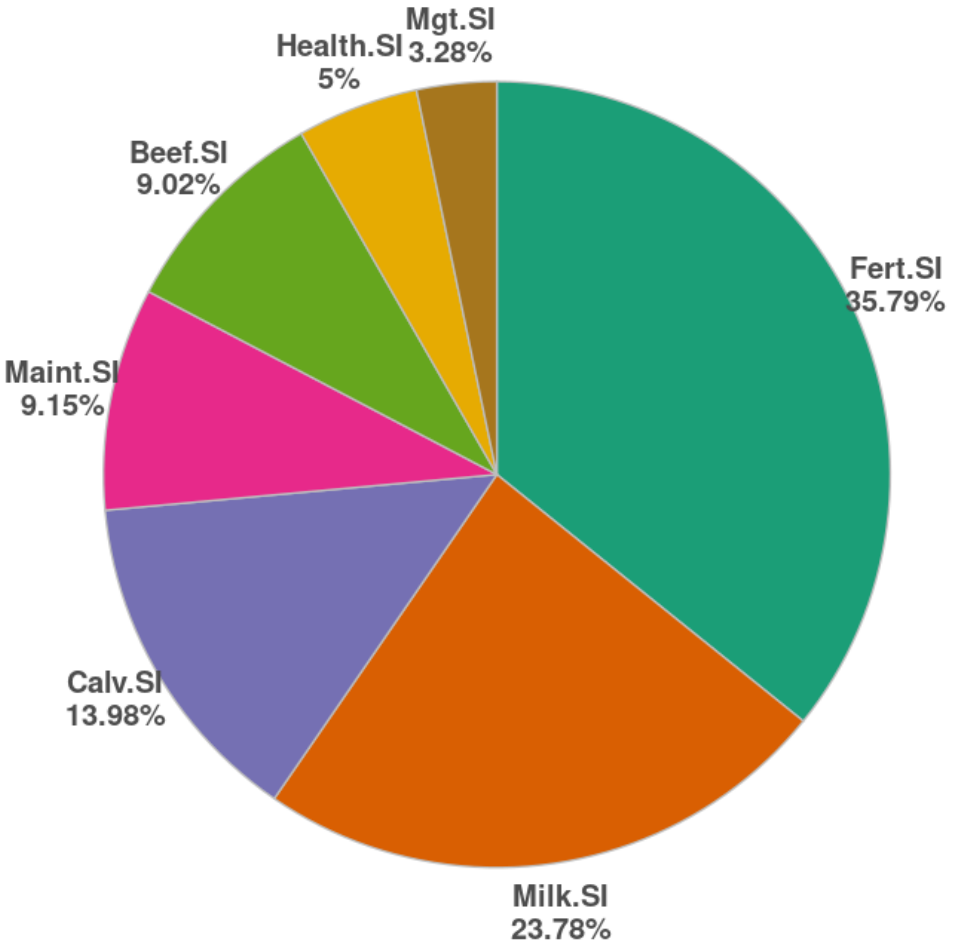
Genetics of methane

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

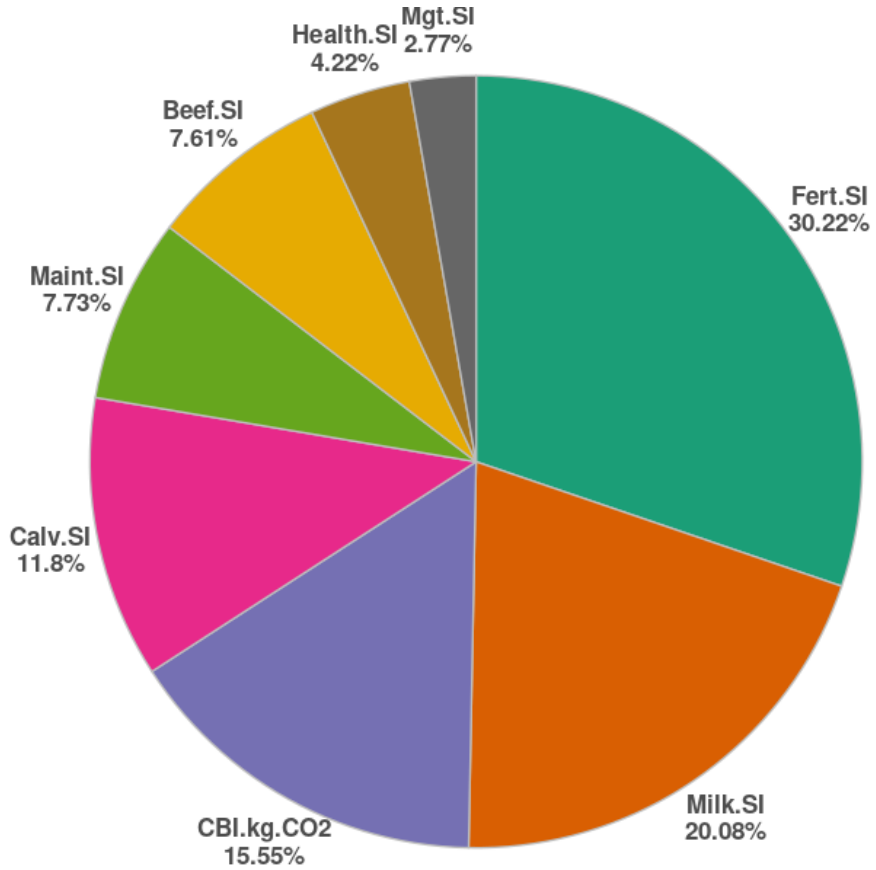


Carbon sub-index

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

Acknowledgements

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An Roinn Talmhaíochta, Bia agus Mara

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GrassToGas

FACCE ERA-GAS
ERA-NETSUSAN
ICT AGRI era-net

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Panel Discussion

How can genetic selection help to increase resilience and efficiency in sheep??

Smarter
SMAll RuminanTs breeding for Efficiency and Resilience

Sheep Ireland
www.sheep.ie

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