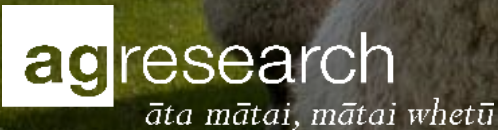


Rate of Genetic Gain for Methane Emissions in a Maternal Production Flock

Fern Booker, John C McEwan, Suzanne J Rowe

ASGGN meeting ILRI Kenya Oct 2025



Results from Booker *et al.*, 2024. NZSAP 84:4-6

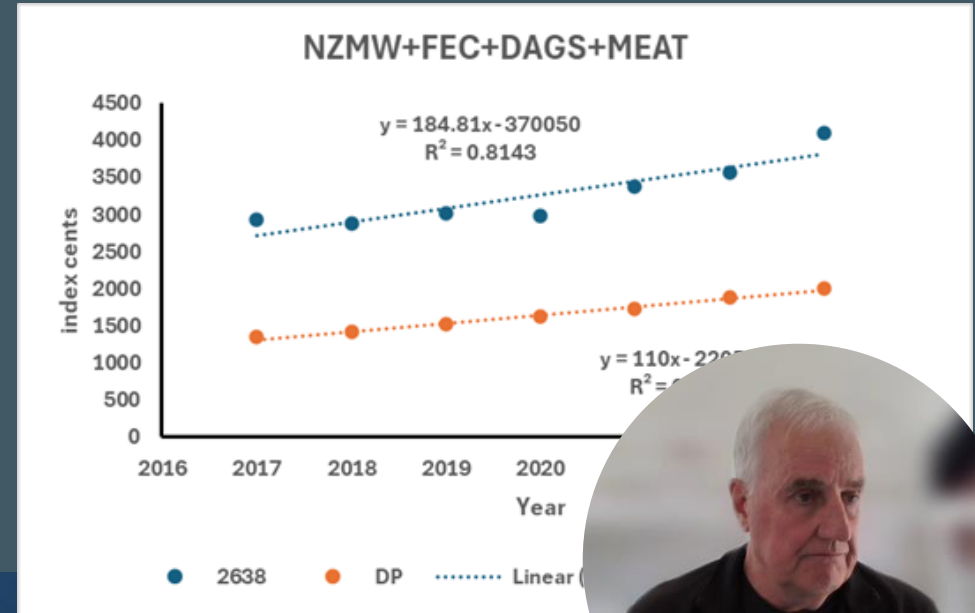
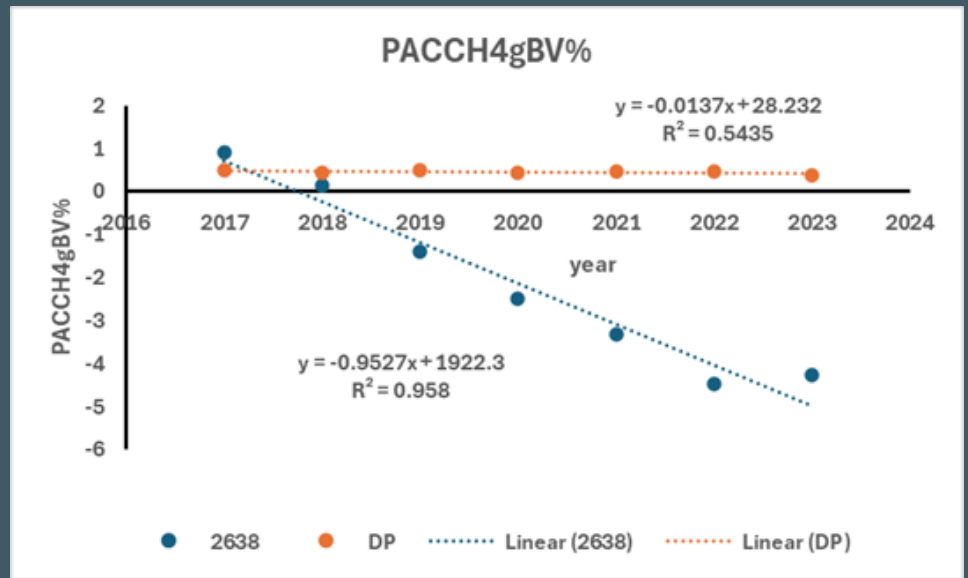


Materials and Methods

- What happens when selection for lower methane is included in a production selection index?
- AgResearch Maternal Flock based at Woodlands Southland New Zealand 2638
 - 750 ewes + replacements
 - 20 rams used per year, with link and repeat sires
 - Maternal composite breed
 - Whole flock genotyping NZ\$26/sample with 80K SNP chip
- Selected on a custom index incorporating methane since 2017
 - **NZMW + FEC + DAGS + MEAT + PAC**
 - PAC Methane emissions given cost of \$6.82 per gram/head/day
 - Equates to \$100 tonne CO₂e using GWP100 conversion factor
- Breeding values and indexes retrieved from SIL database



	Industry Average	Flock 2638
Annual Change 2017 - 2024		
NZMW+F+D+M (cents)	+110	+185
NZMW (cents)	+89	+133
Methane (%)	-0.01	-0.95
CO2 (%)	0.06	-0.2
Growth (kg)	0.18	0.12
Absolute Change by 2050		
NZMW+F+D+M	+\$30.80	+\$51.80
Methane	-2.8%	-27%



Acknowledgements

- Brooke Bryson and the team at Woodlands
- Animal Genomics team
- Breeders recording methane traits

