Meeting the Challenges of Climate Change

What can livestock farmers do now?

Beef + Lamb NZ

Victoria Lamb

Warning: R18

(contains gratuitous pictures of trees)
Absolute Emissions Reductions …

... Are the only game in town!

The ruminant livestock sector absolutely accepts responsibility for mitigating its emissions

This is why the sector has committed to a starting point of reducing net methane in line with the Paris to limit warming (1.5°C) and getting nitrous oxide to net zero, by 2050
Methane production from pastorally farmed ruminants is directly proportional to quantity of feed consumed, with little variation for pasture species, feed quality and animal type.

Currently, NZ pastoral farmers have no management options to decouple the emissions of methane from feed eaten by ruminant livestock.
Targets and ‘fair and just’ transitions

Government…? The politics of ambition vs the reality of reduction with few tools

Sector… a starting point of reducing methane to a level that aligns with the Paris goals (1.5°C) and getting nitrous oxide to net zero, by 2050

Sheep and beef… sector net neutral by 2050

Dairy… reducing methane and getting nitrous oxide to net zero
BERG on what can be done now – dairy (2 – 10% not including forestry)

- Lower stocking rate/increase production
- Feed low N supplements grown off farm
- Remove cropping
- Remove N fertiliser
- Land use change (forestry)
- Intensify to system 5 and increase offset
- Trees on marginal land to maintain production
- Feed low-N supplements grown on farm, reduce pasture ha
- Once a day milking
• Decrease SR/ increase production per animal (NI 2%, SI 5%)
• Decrease SR /minor increase in production per animal
• Remove N fertiliser (1-3% where farms use N fertiliser)
• Increase other land uses (forestry) increase SR to (almost) maintain production
• Trees on marginal land/maintain production (7 – 12%)
• Replace breeding cows with dairy beef (3-4% NI, 1% SI)
• Alter sheep/cattle ratio (<1%)
• Increase male/decrease female cattle (<1%)
The size of a future pie

Figure 18. Cumulative effect of a comprehensive package of mitigation options for dairy, beef and sheep, for maximum assumptions about efficacy and adoption rates for each mitigation option.
The role of trees

Trees are wonderful things and can have multiple benefits – biodiversity, erosion prevention, carbon storage
But…
they are a short term measure
It is not like the sector is doing nothing

• All farms with a Farm Environment Plan
  – Deer by 2020
  – S+B by 2021
  – Dairy by 2025
• Whole of environment integrated management – water, biodiversity, climate change, soil health
• FEP workshops around the country
• On farm GHG estimation tools
• Whole farm verified carbon footprint tool
But wait! … there is more

- Extension behavior change programmes
- Certification for rural professionals
- Forestry / trees on farms workshops
- R&D funding – past, present and future
- 100 farms programme (dairy)
- Impact of specific farm management practices on GHG emissions – 200 farms, Overseer, farm performance data, over time
Lots more

- Catchment communities programme helping farmers manage across the environment including climate change
- Measuring carbon sequestration in on-farm native forest
- GHG numbers for all s+b economic survey farms as part of benchmarking, along with other environmental data recording