

MANAGING GREENHOUSE GAS EMISSIONS

What does it mean in the Mallee?

KEY DEFINITIONS

Carbon Farming refers to agricultural practices aimed at capturing and storing carbon in soils and vegetation, and reducing greenhouse gas (GHG) emissions.

Carbon Accounting involves measuring and managing the carbon emissions from farming activities. It helps farmers understand their carbon footprint and track improvements over time.

Emissions Intensity is a measure of the amount of GHG emitted per unit of agricultural output (e.g., per kg of grain or livestock product). Lowering emissions intensity means producing more with fewer emissions.

Greenhouse gas emissions on Mallee farms these are mostly methane (primarily from livestock), nitrous oxide (mainly from N fertilisers) and carbon dioxide (from diesel and other inputs).

ACTIONS YOU CAN TAKE

Do Now (win-wins!)

- Minimum tillage, maintain soil cover, protect or build soil carbon stocks.
- Optimise fertiliser use efficiency, particularly of nitrogen fertilisers, which are source of nitrous oxide, a potent greenhouse gas.
- Improve soils – anything you do to overcome soil constraints is likely to improve not just productivity but also emissions performance.
- With livestock, optimise weaning rates and growth rates.
- Renewable energy – install solar to reduce reliance on fossil fuels.
- 'Know your number' – use a GHG calculator to work out your emissions intensities for grain and livestock production, track progress, scenario planning.

Future options

- Use lower emission fertilisers (e.g., green urea).
- Incorporate more legumes into rotations to reduce reliance on bagged nitrogen.
- Feed additives for livestock.
- Plant trees to use as offsets.
- Some potential to increase soil carbon, but this approach is largely unproven in the Mallee.

RELEVANCE TO MALLEE FARMERS

- Evolving market expectations – buyers of agricultural products are increasingly seeking products with low emissions intensity to meet their own emissions reduction targets.
- Farmers may, in future, face regulations requiring them to account for and reduce emissions.
- Reducing emissions or emissions intensity can also improve profitability: for example, soil amelioration can lead to more grain from the same inputs, improving profitability as well as reducing emissions per unit of grain produced.
- The Australian Government has developed methods to allow farmers to generate and sell carbon credits, and two methods are broadly relevant to the Mallee: a soil carbon method and a method recognising sequestration in trees. However, very few projects have yet been registered in the Mallee.



WHAT IS MSF DOING?

- PIRSA carbon farming pilot, assessing viability of running soil carbon projects after soil amelioration
- Refining N decision making for the Mallee
- Carbon Farming Outreach:
 1. Awareness raising
 2. Accounting and action planning



Government of South Australia
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