

Protecting Mallee soils from erosion



Above: Stubble remaining in a paddock over summer to protect the soil.

Left: A dust storm approaching Mildura.

Photos: Mallee CMA.

Soil erosion is a high community priority in the Victorian Mallee due to the environmental and economic impacts it has on private and public assets. Significant progress has been made in recent years to reduce both the occurrence and severity of wind erosion in the region.

Background

Wind erosion occurs naturally in the landscape and is an important part of soil origins, with many soils in the Mallee formed by wind-blown processes.

However it also causes adverse effects both on and off farm, for example:

- Fine particles of soil removed from unprotected soil surfaces can result in a direct loss of nutrients from the land;
- Airborne particulate matters can have health impacts and reduce visibility; and
- The deposition of soil can smother native vegetation, bury or undermine infrastructure, and increase nutrient loads in waterways.

Wind erosion has been a recognised issue in the Mallee for more than 60 years, and

At a glance

- Wind erosion occurs naturally in the landscape and is an important part of soil origins;
- It can also cause adverse effects both on and off farm;
- Vegetation cover is a key factor in reducing the risk of erosion; and
- Soil dry-aggregates also help protect the soil from erosion.

its control has been an ongoing priority for both dryland farmers and natural resource management (NRM) organisations.

In recent years, farmers have achieved significant progress toward reducing the occurrence and severity of wind erosion by implementing both widespread management practices and targeted interventions. However, wind erosion continues to be a significant threat to the region.

Vegetation cover

Vegetation cover is a key factor in reducing the risk of erosion by helping to hold soil together and protecting it from the wind. Traditionally, dryland Mallee farmers have rested their paddocks every two or three years, meaning the amount of vegetation cover was limited over extended periods.

There has been a significant increase in cropping intensity in recent years.

By increasing their cropping intensity, farmers are ensuring more land is covered with vegetation, therefore reducing the



Above: Variable soils of the Mallee, showing soil aggregates (soil clods) that can help protect the soil from erosion. Photo: Mallee Sustainable Farming

risk of soil loss though wind erosion. This is, however, a tough task, with continuing dry conditions, the cost of chemicals for managing weeds, and pest animals (such as rabbits) all impacting on vegetation cover.

Soil aggregates

Soil dry-aggregates also help protect the soil from erosion. Soil aggregation is the term used to describe soil clods (soil that joins together). This can reduce the potential for wind erosion, particularly

on heavier textured soils such as loam and clayey loam. Sandy soils are less likely to form soil aggregates and need more vegetation cover to protect against erosion.

Soil aggregates can be broken up by numerous cultivations of the soil. Cultivation is a tool used to manage weeds and prepare the soil for sowing.

Conclusion

It is important to consider that there are many influences on land management and while Mallee dryland farmers are working to reduce wind erosion, outside influences particularly climate can play a role.

Acknowledgments

The Mallee Catchment Management Authority (CMA) works with local farmers, stakeholders and partners to reduce the risk of soil erosion with funding provided by the Australian Government.

Find out more

Further information is available from the Mallee CMA website www.malleecma.vic.gov.au or on 03 5051 4377.



Above: Taking soil samples. Photo: Mallee Sustainable Farming.

Project Partners



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