



Before



After

## Barren moonscape now a productive landscape

Many farms in the Central Victoria/Goldfields region are particularly susceptible to sheet, rill and tunnel erosion due to the high erodibility of soils. The poor soil condition on the eroded land affects plant growth, long-term soil stability and leads to high levels of sediment being washed into nearby creeks. This impacts farming profitability and sustainability as well as water quality.

Ken Heal runs 5000 head of sheep on 1400ha at Melrose Park Pastoral near Nagambie. Ken's research shows erosion has been an issue on the property for at least 100 years and he is determined to leave the property in better condition than it was when he bought it 35 years ago. He has been particularly concerned about a north-west facing hill that he describes as a "moonscape" with no grazing value.

Ken has tried three times to solve this issue, at great cost, but until recently has had limited success. In 1982, one year after buying the property, he sowed the area using a chisel feeder and conventional fertiliser and pasture. It was a severe drought year and the project was a partial failure. In 2000 Ken ripped the area and planted trees, only to see that fail. He tried one more time but the tree planting failed again.

Trees planted on the other side of the hill at the same time grew, however, Ken noticed erosion still occurred; the trees were just masking the bare soil beneath the trees. He realised that grasses needed to be established but that would be difficult as there was virtually zero nutrients in the soil.

Ken worked with Brad Costin of Agriculture Victoria to come up with a somewhat non-conventional approach to tackle the erosion problem and improve soil health on the 5ha site.

Using a Beyond SoilCare grant, Ken deep ripped the area with an excavator and levelled it out. He then spread superphosphate over the area as well as 2 tonne/ha of gypsum and 2 tonne/ha of lime.



**Ken Heal is tackling long-term erosion and improving soil health on his sheep property.**

Due to concerns about funding availability, pasture grasses were sown by direct drilling in 2015 even though it was very dry. The grasses failed to establish. In 2016 the grass seeds were direct drilled just before rain. The timing was perfect with the grasses quickly providing ground cover to the entire area.

The ground cover on the more hostile north-west side of the hill is now far more extensive than the other side of the hill where there are trees but no understorey. The former "moonscape" is fully fenced off to grazing to ensure there is a good reservoir of seed in the ground. Sheep will eventually be introduced.

In late 2017 composted poultry manure and agricultural plant residues (straw etc) were also applied in various quantities to the north-west hill site; early observations indicate that this has been successful.

The project is a partnership between Melrose Park Pastoral, Agriculture Victoria and the Gecko CLaN. As a demonstration site it will provide a long-term point of reference for surrounding farmers facing similar soil health problems. The contribution of perennial pastures will be highlighted, particularly the role they play in reducing soil loss, salinity discharge and improving land condition. Linkages between soil acidity, salinity, organic matter and structure and their effects on soil loss will be built into extension material and field days.

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