

Dryland Salinity Control Works



Dune seepage areas are becoming more common in the Mallee landscape

The salinisation of some dryland farming areas in the Mallee region is a significant concern for land managers. Localised induced saline discharge areas are a relatively new problem directly associated with the historic large-scale land clearing of deep rooted native plants such as Mallee trees and their replacement with annual, shallow rooted agricultural crops and summer fallow practices. This results in more rainwater being able to percolate down through the

soil profile, collecting salts and other minerals on the way until its downward path is slowed or stopped by water impeding layers such as impermeable subsurface clay layers, which underlie much of the region. This can result in the soil profile wetting up to the point of waterlogging and the eventual seepage of this salt contaminated water back to the surface. These localised patches of topsoils with elevated salt levels can be rendered near sterile and devoid of plant growth and

eventually lead to the formation of salt scalds.

The re-introduction of salt tolerant vegetation, particularly native species, to the border zones of salinised areas is a very effective way to stop, and in some cases reverse the spread of these problem areas. Deep rooted plants do this by maximising the use of the available fresh water (rainfall) through evapotranspiration, before it has a chance to drain down through and collect in the soil profile.

In 2016 the Australian Government provided funding under the National Landcare Program in the Mallee for on-farm salinity control works. Grants were made available through the Mallee Dryland Sustainable Agriculture program, delivered regionally by the Mallee Catchment Management Authority.

Grants supported farmers to undertake on-farm works for re-vegetation and associated fencing to help control salinised areas.

Jason and Ryan Scott's 3200 Ha cropping and grazing mixed farming enterprise is located near Ouyen in the central Mallee. This area is known for having a higher than average production capacity and ability to attract above average annual rainfall. The area is also known to have more than its fair share of secondary salinity affected sites. The Scotts applied for and were granted salinity control works funding, available through the Mallee Dryland Sustainable Agriculture grants program in 2016.

"We have seen multiple seepage problem areas emerge on our farm since about 2005 onwards when we adopted direct drilling over conventional fallow. These areas have become a real eyesore," Jason Scott said.

"Better chemical control methods for deep rooted summer weeds, like skeleton weed on our hills and more frequent heavy rainfall from summer storm events have certainly contributed to the problem, we believe.

"Being involved in the Mallee Catchment Management Authority's Environmental

Management Action Planning program (EMAP) meant that we learnt more about our salinity problems, our EMAP case manager picked up on the issues and encouraged us to apply for funding available through the Mallee CMA's Sustainable Agriculture grants program," Jason said.

"We found the whole application process easy with the case manager clearly explaining how the process works, from planning right through to the finish of the works. We had a lot of help along the way, with the case manager on hand to advise us on project design and even what plants to select and how and where to plant them.

"Because we have run sheep we have incorporated fencing with the plantings, this will enable us in time to properly manage the saltbush as a supplementary sheep feed when required." Jason added.

"This was our first attempt to control our salinity problems and we will certainly be continuing the work in stages across our property.

"We learnt some valuable lessons this time round including timing the planting

to be closer to the autumn break and to stage the works over a lesser number of sites per year, as watering by hand takes more time than we thought and finally, to make sure we have enough hands on deck when we make a start.

"We would certainly encourage other farmers to get on to their small problem areas sooner rather than later, as this was the mistake we made, to let our little areas go, thinking that the problems would eventually go away; they don't, they only get bigger and harder to control," Jason concluded.

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