AGROFORESTRY AND SALINITY CONTROL IN SOUTH-WEST VICTORIA

EASTERN OTWAYS - GERANGAMETE

HEYTESBURY SETTLEMENT - SIMPSON
The Role of Agroforestry in Salinity

*Salt is spreading by up to 9% a year.*

*Some high salinity areas like the Headquaters affected land has been mapped in the composite aera of 13,000 hectares of human induced salt*

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**What can be done?**

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**How many trees are needed?**

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**Why did we need to stop all revegetation just enough to allow freshwater to rise to the surface? This is discharge.**

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**Drilling bores to investigate water levels.**

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**Discharge and less salinity found.**

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**Riskier the balance. Less receiving means less.**

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**Other investigations around the country suggest a higher rainfall means to limit recovery to acceptable levels.**

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**We don't need to stop all revegetation just enough to allow freshwater to rise to the surface. This is discharge.**

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**Water tables are rising because partions don't use salinity.**

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**The darker areas are salt affected (discharge sites).**

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**A rising water table at Lengwengu.**

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**Depth to waterable m.**

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**At these trees should ensure their keep.**

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**If 20% tree cover over part of the farm is needed to stop salinity some.**

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**Drilling bores to investigate water levels.**
Two sub-catchments selected as project sites in salinity “hot spots”

In the Heytesbury Settlement near Simpson. A 20 hectare site that’s part of a dairy farm. Rainfall averages around 1000mm a year.

In the Upper Barwon River catchment near Gerangamete. A 200 hectare site, parts of which are owned by five farming families. Farming enterprises include dairying, beef production and potato growing. Rainfall averages around 770mm a year.

Preparation and planting

Firstly the sites were deep ripped during the Autumn, followed by mounding over the rip lines. The mounds were sprayed with knockdown and residual herbicides to control weed competition. Fencing was erected by landowners. Tube stock were then hand planted in the Spring of 1993.

Monitoring equipment installed

Planting the trees was the first stage of the project. It is important to measure the effect of the growing trees on the watertable and on the salty discharge areas. We need to know if the 20% “best bet” is working.

To do this bores have been sunk to monitor watertable movement, a stream gauging station was installed at Gerangamete to measure surface run-off, salt loads and rainfall. Soil moisture is also being measured. This information will tell us what impact the trees have on the water balance.

Consultation and discussion with landowners

Planting plans and paddock layouts were developed and tree species selected.

Tree species selected include those native to the region like Southern Blue Gum, Manna Gum, Blackwood, Messmate, Mountain Grey Gum, and others also with good timber values like Sydney Blue Gum and Spotted Gum.

Monitoring soil moisture

Farm walks and field days

Letting other landowners with similar salinity problems know about the project and it’s progress is also important.

Farm walks and field days will continue as the trees grow, and include demonstrations of pruning and management techniques to maximise the growth and value of the trees.
ESTABLISHING AGROFORESTRY TO CONTROL SALINITY ON THE FARM

- Check to see if you have any salt affected land on your property

Do a water and soil test.

Speak to Departmental officers to establish what sort of groundwater system is causing the problem.

- Manage the trees to increase their value to the timber industry

To produce high value sawlogs and specialty timbers the necessary management will include:

- Form pruning to establish one strong leader.
- Clearwood pruning to remove side branches so that a six metre long knot free log is produced.
- Selecting the best trees and culling poor trees to maximise the diameter growth of the good trees.

Water Buttons - a salt indicator plant

**Plan what you are going to do**

Do a whole farm plan or a property management plan so that trees can be incorporated into your farm to provide additional benefits like shelter, shade, erosion control and wildlife habitat.

Select suitable tree species and provenances for your area to ensure fast growth rates and high timber quality.

Thorough site preparation, weed control, and rabbit and hare control are critical for successful establishment.

Access for logging is important to keep in mind.

Clearwood Pruning

**MORE INFORMATION:**

- **Department of Conservation and Natural Resources**
  - Colac (052) 33-5533
  - Ballarat (053) 33-6782
  - Geelong (052) 26-4667

- **Centre for Land Protection Research**
  - Bendigo (054) 44-6777

- **Farm Forestry & Agroforestry Networks**
  - Corangamite Farm Forestry Network (052) 33-5533
  - Otway Agroforestry Network (052) 88-7247

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