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SGSL

# Have a yarn

## *talking* salt with Deane Aynsley

## "Salinity – a learning experience"

***Experimenting with on-farm trials to combat the spread of salinity may not be every farmer's idea of the best use of time but Morbinning farmer Deane Aynsley has at least found it a learning experience.***

Having grown up on the family farm, Mr Aynsley said there had never been a problem with salinity until it surfaced in the mid-1990s, when it rapidly spread to threaten a dam supplying fresh water to stock.

The Aynsley family decided it would not continue to crop the 23ha of salt-threatened land and set it aside as a site where they would try planting saltbush and subtropical grasses in an effort to prevent the encroaching salinity.

They also planted a separate adjoining 15ha area to lucerne.

*"We could have kept cropping the area but we wanted to protect the dam and prevent the bare scald from spreading,"* Mr Aynsley said.

*"We have been trying to stop the spread of salinity before it gets any worse.*

*A lot of the area is just going really bad. I'm shocked at how quickly it has happened rather than the scale of it."*

Mr Aynsley said he would have experimented to try to reduce salinity levels and preserve valuable farmland, but on hearing about the Sustainable Grazing on Saline Lands (SGSL) program, decided to put forward a proposal for funding.

It was accepted and a grant was provided by SGSL for extra expenses that would enable the Aynsleys' to demonstrate the experiment to other farmers.

The Aynsleys' also hoped their efforts to reduce salinity would provide future generations with a valuable and productive farm.

*"If we had not received the grant we still would have done something but probably only half as much as we have,"* Mr Aynsley said.

He said the cost of establishing the site was $270/ha, which included fencing and re-sowing after failures.

The first stage of the trial began in 2003 when Mr Aynsley decided to direct-seed his saltbush in some of the worst affected areas, which was unsuccessful, as only a few bushes grew.

*"It was not a good year in terms of summer rainfall,"* he said.

*"Where it was really saline it was too saline for the seeds. If we had planted seedlings it might have been alright."*

After consultation with the SGSL support team Mr Aynsley decided to plant subtropical grasses instead of saltbush because a lot of the area around the saline affected parts was quite fresh and not too salty.

The grasses included Rhodes grass, panic, setaria, tall wheat grass and signal grass. As part of the trial a scarifier was used on some sections of the site to create a seedbed with seeding performed using a zero-till disc seeder.

Establishment of grasses was compared between scarified and unscarified areas.

**"The tall wheat grass did quite well and the sheep have taken to it."**

*"Where we used the scarifier the plants established well and where we did not use it there was nothing,"* Mr Aynsley said.

*"The tall wheat grass did quite well and the sheep have taken to it.*

*Ideally we should use some nitrogen fertiliser over the entire site to get a better growth result.*

*Alternately, we may plant a pasture legume to provide some nitrogen to the grasses.*

*There is still research to be done on what to do with the site in terms of best grazing practise and how to get the best growth out of the plants."*

Mr Aynsley is thinking ahead to improve the site so it is as productive as possible, and can serve as an area where he can shut away his sheep for a few weeks and not have to worry if they are suffering from lack of nutrition.

*"I think the site would benefit from better drainage, both surface and deep drainage.*

*Deep drainage would be ideal, but understandably there would be resistance from people downstream.*

*I think the best results would come from a combination of drainage, saltland pastures and forestry."*

Until there is better information about engineering solutions the Aynsleys' will be maximising the value of the area by using it

as a safe area, something to fall back on for a bit of green feed and shelter.

*"We were not sure where we would have put the stock if we did not have this area,"* Mr Aynsley said.

*"There are 600 lambs here at the moment and they should be okay for a month or so with supplementary feeding.*

*"It takes the pressure off other pasture areas and lupin stubbles that will be prone to wind erosion."*

The Aynsleys' property is part of the Morbinning catchment, which has seen a plethora of landcare projects since the late 1980s, focused on preventing the spread of salinity and generally taking better care of the land.

The property is high on the landscape with no sign of salinity for more than 30 years.

***"There is still research to be done on what to do with the site in terms of best grazing practice and how to get the best growth out of the plants."***

The Aynsley family, which began farming the property in 1969, has 2800ha which runs a 5000-head Merino and prime lamb flock and includes 1400ha for crops.

SGSL is a national program initiated and funded by Australian Wool Innovation, Meat Livestock Australia and the Land, Water and Wool agency.

# QUICK FACTS


**Location:** 35km east of Beverley

**Rainfall average:** 340mm

**Enterprise mix:** sheep and cereals

**Trial size:** 76.2ha (include the trial area of 28.5ha of annual pasture)

**Trial aim:** To successfully establish a range of saltbush and perennial grasses in a mix using an air seeder.

**Saltland pasture mix:** Evergreen mix, saltbush, lucerne

**Original vegetation:** York gum, jam wandoo

**Soil type:** loam/clay loam

**Watertable:** - 1.72m

**Water salinity:** 340mSm. Excellent stock quality

**Water pH:** 8.5

***"It takes the pressure off other pasture areas and lupin stubbles that will be prone to wind erosion."***

## A word from the gate...


This site consists of 23ha of relatively fresh land which is at risk of developing secondary salinisation, and a 1-2 ha scald area which is severely salt affected. The current management aims to protect the existing 23ha from getting worse and establishing some cover on the 1–2 ha salt scald.

The direct seeding of saltbush and acacia species onto mounds resulted in mainly a growth of acacias due to the fresh conditions. Planting nursery-raised seedlings onto the scald area would be a better option than direct seeding as germinating saltbush seed is very susceptible to high salt levels.

Subtropical grasses planted in the saltbush/ acacia interrows have been highly successful, particularly Rhodes grass. It is important to consider that acacias only have a short lifespan (approximately 10 years). In the Evergreen mix, Rhodes grass is the only grass that has slight tolerance to salinity, which may explain its dominance compared to the other species.

After the site has been grazed in early autumn, it would be a good idea to either drill using knife-points or broadcast some balansa clover and burr medic to provide a legume component to the pasture.

An initial cultivation resulted in a much better establishment of the subtropical grasses when sown with a disc drill. This is due to the aeration of the soil, allowing the roots to initially penetrate easier and allowing flushing of any salts through the profile to provide an optimal environment for seed germination.

The site has a sandy duplex soil type with a dispersive clay layer at 30-55 cm. The main constraint to production over the fresher areas of the site is waterlogging, partly compounded by run-off from the upper slope, which contributes to prolonged subsoil waterlogging and inundation along the east boundary. Some drainage to re-direct run-on water from upslope away from the site may prove beneficial to alleviate potential waterlogging.

*John Paul Collins is a Research Officer with DAFWA. He has spent five years working on saltland pastures.*

The Sustainable Grazing on Saline Lands program (SGSL) aims to support sheepmeat producers and woolgrowers profitably manage by dryland salinity on their farms.

SGSL involves building a network for testing and exchanging information, providing farmers with useful, timely and relevant information and conducting on-farm research into saltland production options.

The program operates in WA as a producer network of regional farmer groups undertaking individual sustainable grazing projects on local salt-affected farms as well as a Research & Development project through the CRC Salinity of which CSIRO and DAFWA are principal contributors.

The SGSL is a National program initiated and funded by Australian Wool Innovation, MLA and the Federal Government's Land, Water and Wool agency. In WA the project is co-funded, administered and delivered by the Department of Agriculture and Food WA, in conjunction with the CRC Salinity and CSIRO.

**Further products in this series available at www.landwaterwool.gov.au**

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