



Have a yarn

talking grazing with Jeff & Marilyn Tink

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“Looking over the fence – Is their grass greener?”

Looking over the neighbour's fence was the inspiration for Jeff and Marilyn Tink to tackle emerging creekline salinity that was threatening to extend into their cropping country.

On their neighbour's property healthy trees flourished in the flat creek area further downstream, while a similar area on their own property showed bare salt scalds and dying trees.

On the Tinks' property Mountlea, north of Ravensthorpe, 1500ha of annual cropping represents 80 per cent of their enterprise with another 300ha allocated for sheep, which until this year, had been mainly a wool-producing Merino flock.

Their salinity problem is not as severe as some and they believe they can gain much by improving production on the saline areas.

The creekline is the upper part of a system that feeds into the Jerdacuttup River and always had a salt tendency which had grown progressively worse since they bought the farm in 1981. While they could still grow barley on the adjoining paddock, the area was getting smaller and yields declining.

Their decision to act coincided with the start of the Sustainable Grazing on Saline Lands program which they viewed as an opportunity to learn more about establishing productive saltland plants.

Their experience and success in establishing a multi-species planting has given them the incentive to tackle a second 20ha saline wasteland also extending into healthy cropping land.

In an effort to use more of the rainfall where it fell, Jeff had already gained some experience establishing lucerne under a lightly sown barley cover crop on almost 70ha on the fresher slopes either side of the river





flat. The lucerne was sown with an airseeder and went in with MAP and grasses controlled with Treflan before sowing.

Since then Jeff said management has been bullet-proof and the robust stand recovers well after grazing.

"We have used an insecticide to control grasshoppers and redlegged earth mite and have sprayed annually to take out the grasses," Marilyn said.

They originally planned a phase of lucerne to lower the watertable before spraying it out and putting the paddock into barley in 2007. But the lucerne has established so successfully they are now reluctant to wipe out such a dense and productive stand and may defer its removal for another year.

In 2004, as part of the SGSL program, they went to the heart of the problem on 35ha where they wanted to trial new sustainable grazing recommendations.

As a result of an EM31 survey, three areas were identified for different treatments: lucerne on the fresher site; tall wheat grass on the poorer soil; and saltbush on the saline areas. These would become three paddocks in a rotational grazing system, using an adjoining feedlot.

A total of 15ha of tall wheat grass was sown where barley would not grow. By chance, a good rain followed the sowing which resulted in good establishment. They ripped and mounded the worst affected country, sowing saltbush seed as well as planting 2000 seedlings by hand.

In September, when the weather

warmed up, they used DAFWA's small disc seeder and press wheels to sow an

Evergreen saltland mix that included tall wheat grass, puccinellia, panic, setaria and Rhodes grass between the mounds. Away from the creekline, oil mallees and salt-tolerant trees were planted.

The saltbush seedlings include a small number of the patented South Australian Eyres Green Giant, an old man saltbush cultivar, which is impressive with its rapid growth and consistent type and growth habit compared with the variability of seed.

The Evergreen mix was sown into dry soil and didn't receive another rain that year. The Rhodes, setaria and panic grasses survived but in late winter 2006 were the only salt mix species still present.

For any future planting Marilyn says they would not plant the Evergreen mix but put in separate plantings of tall wheat grass and puccinellia early in the season, followed by subtropicals on a spring rain.

In 2005 the tall wheat grass paddock was tickled up and balansa clover, Mogul and Santorini medics sown. To date, tall wheat grass is the dominating species.

In 2006 they had planned to topdress the tall wheat grass and simultaneously broadcast puccinellia seed on the bare areas. But as they were unable to get seed, that will wait until 2007.

They have fenced the site into three paddocks to manage the lucerne, tall wheat grass and

saltland perennials separately, but so far have not put stock onto the saltland perennials.

The lucerne and tall wheat grass paddocks have been rotationally grazed, and because they are

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near their feedlot, they envisage them as a part of a valuable management strategy in turning off finished sheep.

As a result of the opportunities offered by the new system they joined their entire Merino flock to Suffolks in 2006 and will use the combination of lucerne, saltland pastures and feedlot to finish the lambs.

Excluding livestock from the salt-affected area for an extended period has allowed bluebush to regenerate on the scalds and the Tinks have been amazed at the way the landscape has changed. The absence of stock on the salt planting and the rotational grazing on the lucerne paddocks also encouraged regeneration of native grasses.

Marilyn Tink said they had help from several SGSL consultants, most recently working with hydrologist Arjen Ryder from DAFWA in Albany. But some of their most valuable information came after an SGSL seminar at Wickepin where they could experience the ideas and success of others.

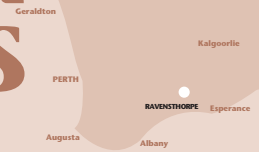
"We wanted to investigate the best way to establish saltland pastures and if we hadn't been part of the SGSL project we wouldn't have achieved that. Our experience has shown that a better approach would be to seed suitable pasture species with broadacre equipment, then establish the saltbush over the top. This would be more efficient and result in a larger area of pasture."

The SGSL area has been successful but one shortcoming is lack of suitable water in the saltbush area. Only when that problem has been addressed, will they feel the project is complete.

Looking ahead, they will start by working around the edge, planting tall wheat grass and mallees. Mallees will be the choice because the sheep aren't as hard on them, Marilyn said.

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QUICK FACTS



Location: 20km north of Ravensthorpe

Rainfall average: 300mm

Enterprise mix: Sheep and cropping.

Trial size: 35ha

Trial aim: To transform a totally unproductive area of a paddock into a year-round profitable resource. Lessen the encroachment of salt in adjacent paddocks. Assess the impact of perennial pasture species options on groundwater rise. Determine which perennial pasture species (Evergreen mix, balansa clover) establish and thrive in the local environment over time. Determine which saltbush species and establishment methods are more suitable for the local area over the long term.

Saltland pasture mix: Lucerne on the fresher sites, tall wheat grass on the poorer soil and saltbush on the saline areas. An Evergreen saltland mix was sown later.

Original vegetation: Mallee

Soil type: Shallow sandy duplex

Watertable: -0.65m and -3.56m from two bores on trial site.

Water salinity: 5080mS/m (seawater)

Water pH: 5.08 and 3.23

Clearing date: 1940s



A word from the gate...

One of the barriers to adoption for establishing salt tolerant pastures, like tall wheat grass, on semi-saline soils is the high cost of seed. At the recommended sowing rate of 10kg/ha, seed costs are over \$85/ha.

The aim was to develop a cheaper seed mix for about \$50/ha while using a one-pass seeding operation that places seed 1cm deep while still maintaining good seed-to-soil contact.

Tinks' site was direct drilled using a standard air seeder with knife points and press wheels, after a weed knockdown spray.

This method works well as long as soil is moist enough to germinate seed or good rains are received within a week.

Sowing a mix of 4kg/ha of tall wheat grass with ½kg/ha lucerne and 3kg/ha annual legume pasture is working well.

It has been surprising where lucerne persists at semi-saline sites but it's important to sow at a low rate to produce a low density stand that adds diversity to the pasture.



Keith Devenish

Most semi-saline sites with loamy soils are best suited to medics and nowadays Scimitar or Cavalier burr medic are good options but seed was not available when sowing this site.

Frontier balansa clover should also be added at ½kg/ha but it can be very competitive in year one, hence the low sowing rate. Prima gland clover is another option because of its redlegged earth mite tolerance but at a low seeding rate.

At Tinks' site we added the balansa on the second year but we should have added 1kg/ha puccinellia seed to cover the small bare salt scalds. Creeping saltbush has now recruited naturally at this site as well.

The main message is to use tall wheat grass as the pasture base with low amounts of other species that won't out-compete it in the first season as it is very slow to establish.

Keith Devenish is a Research Officer with DAFWA. He is passionate about improving the productivity of pastures and doing so with minimum increases in costs.

"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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