



# Have a yarn

talking salt with Ian & Di Haggerty

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## “Profit from Prospect salt”

*Combating salinity on prime farmland remains a challenge for producers across WA but it becomes increasingly difficult when salt is a soil surface issue rather than a rising watertable event.*

That was the situation facing Prospect Pastoral Co principals Ian and Di Haggerty before they got involved with the Sustainable Grazing on Saline Lands program (SGSL).

The Wallambin salt lake system is directly adjacent to the Haggertys' property and has affected some of their farming land with the formation of morrel soils.

The Haggertys run Prospect Pastoral Co north-west of Trayning with sons James, 15, Josh, 12, and Matthew, 4. The 3000ha operation is a mixed enterprise producing pure Merino wool and meat, plus grain and hay production, and some share farming.

*Farm Weekly* accompanied Department of Agriculture and Food research officer

John Paul Collins and technical officer Darren Michael to Trayning in August to gauge the progress of the Haggertys' SGSL trial.

Ian and Di Haggerty have always been proactive about on-farm landcare to improve production. In 2002 they began trialling a combination of saltbush species and sub-tropical perennial pastures on about 40ha of mildly saline soils. They expanded that project to more than 140ha in 2003-04. John Paul Collins said the Haggertys' SGSL site was characterised by loose, shifting morrel soils that were prone to wind erosion and exhibited mild to moderate levels of salinity.

*“The problem is not so much a rising watertable because the watertable is 4m below the surface,”* he said. *“But the site is immediately adjacent to the Lake Wallambin salt lake system and salt blows directly off the lake onto the site.”*

He said salinity levels had decreased on the Haggertys' farm since the SGSL initiative began.





*“Based on the average readings taken across the site from the EM38 surveys, the average salinity has dropped from about 150mS/m to 140mS/m in three years since August 2003,” he said.*

*“This is supported by EC 1:5 measurements taken at specific points across the site which show an approximate decrease from 23mS/m in June 2004 to 14mS/m in August 2006.”*

After 2002 the trial area soil consisted mainly of morrel types and saltpan. The Haggertys described the area as dried out and sparsely vegetated and inconsistent for cropping or grazing under an annual plant system. With rising input costs, they decided to look for an alternative production system, which led them to SGSL.

Di Haggerty said they had aimed to improve soil health by finding plants that grew more vigorously and reliably on existing soil types, would address salinity and get the land back to a higher level of production.

They chose to become involved with the SGSL program to assess the viability of a variety of plants to determine which species might survive and produce greater biomass in a

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low rainfall environment. John Paul Collins said adopting a cell grazing system on the site would help boost stocking rates and maintain a source of moderate quality feed through the year.

*“Having the cover of saltbush and perennials to protect the erosion-prone soil will also prevent the site from going further saline,” he said.*

The site was prepared the season prior to planting with knockdown herbicide to prevent seed set and again pre-sowing. A mix of perennials including Rhodes grass, tall wheatgrass, bambatsi panic, digit grass, giant Bermuda and lucerne was seeded, along with about 35,000 old man and river saltbush seedlings. Direct-seeded saltbush and potted seedlings had similar establishment success but the direct-seeded plants had a longer lag time before

growing. Di Haggerty said establishing the lucerne and subtropical perennial grasses had been challenging, but once established, they performed well in the low rainfall environment.

*“...the nursery-raised seedlings have taken very well at the site.”*

John Paul Collins said the trial showed direct-seeding the saltbush had been less successful than anticipated on the loose morrel soil.

*“But the nursery-raised seedlings have taken very well at the site,” he said.*

*“Establishing the lucerne and subtropical perennial grasses has been challenging on this soil type*



*because a high degree of precision was necessary to combat surface salinity.*

*“Future plantings will be done with an Ausplow DBS trial seeder to ensure adequate precision in seed placement and maximum establishment.”* Di Haggerty said DAFWA staff coordinating the trial had been interested and dedicated at all stages.

*“Ian and I were happy to have that assistance and expertise available,”* she said.

*“One of the major benefits of the trial is that it has given us a positive boost and encouragement that we have some plants we are able use successfully.”* She said the site’s potential gave them hope for a more sustainable farming system, especially since it had performed well in the difficult 2006 season.

Between May and August 2006 Prospect Pastoral Co received 67mm of rain. Ian Haggerty said the September rains had provided a significant boost with lucerne up to

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knee-high within three weeks of the rain.

The new growth provided a welcome flush of green feed as the surrounding annual pastures approached senescence.

Prospect Pastoral Co had just finished shearing and would harvest a crop this year. He was thankful they had achieved some production this season, considering how tough it had been for the farming community in 2006.

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## QUICK FACTS



**Location:** Wyalkatchem Trayning Shires

**Rainfall average:** 325mm

**Enterprise mix:** Wheat & sheep

**Trial size:** 70ha

**Trial aim:** Test perennial pastures as a profitable option for grazing & maintaining ground cover and determine best species for the rainfall and saline Morrel soils.

**Saltland Pasture mix:** Lucerne, Rhodes grass, tall wheat grass, Seteria, Digit grass and Giant Bermuda.

**Original vegetation:** Morrel/Gimlet woodland

**Paddock clover before trial started:** Minimal cover of ice plant and barley grass

**Soil type:** Red clay/loam (Morrel soil)

**Water table:** -4.12 m

**Water salinity:** just over seawater

**Water pH:** 3.46

**Clearing date:** 1950s



## A word from the gate...

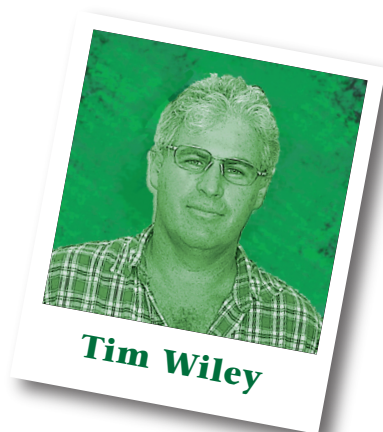
The SGSL trial established by the Haggertys' has significantly advanced our knowledge on the potential role of subtropical perennial pastures in WA.

Most of the research and development of these perennials has been focussed on higher rainfall regions and mostly on sandy soils. Their results have shown that certain subtropical perennial species have potential in the eastern wheat belt.

The Haggertys' trial shows that Rhodes grass has good drought tolerance as well as some salinity tolerance.

The Digit grass has also done well. Digit grasses on the coastal sand plain have persisted. But they have not been as productive as species such as Rhodes grass, Green panic, Setaria and Signal grass.

On heavier soils such as the Haggerty's, the Digit grass could be one the most productive species. This species is also performing well on marginally saline soils in the Liebe (Northern Agricultural) region. Similarly Bambatsi panic performs well



on heavy soil types but not on sands. Bambatsi has proven to be the most persistent of the subtropicals on heavy soils.

The subtropical perennials won't germinate in winter as the soil is too cold. They must be sown in spring as soils are warming up.

At Haggertys' the August sown grass were no were near as successful as those sown in September. In both cases all weeds had been killed prior to seeding. But with the August sowing there was a second germination of iceplant after seeding that prevented the perennial species germinating.

The September 2006 sown perennials remained free of weeds and resulted in a better perennial establishment. This has highlighted the importance of weed control, and also of identifying the 'seeding window' for subtropical perennials in the eastern wheatbelt.

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*Tim Wiley is a Development Officer DAFWA. Tim is particularly interested in the role of subtropical grasses in the WA dryland farming systems.*

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"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](http://www.landwaterwool.gov.au)

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