



Have a yarn

talking grazing with Craig Bignell

***"Eyes opened to the value of perennials
as a stock feed for grazing saline land"***



Craig Bignell's eyes have been opened to the value of perennials as a stock feed since participating in a trial investigating sustainable grazing on saline lands.

The on-farm trial is part of the Sustainable Grazing on Saline Lands (SGSL) project - a national program initiated and funded by Australian Wool Innovation, Meat and Livestock Australia and the Land, Water and Wool agency.

In WA the project involves the Department of Agriculture and Food, CRC Salinity and CSIRO.

Mr Bignell, a Broomehill farmer, has been particularly impressed by the performance of tall wheat grass and saltbush at the trial site on his property.

Established in 2004, these perennial pastures proved invaluable during dry conditions in 2006, with 1595

ewe hoggets run on the 49ha paddock for six weeks at the break of the season.

According to an economic analysis, the Bignells could recoup the costs of developing the paddock in just four years if they continue to achieve similar grazing results.

"Assuming the value of a sheep grazing day is 10 cents, it would take four years to recover the development costs, assuming that he gets 1450 sheep grazing days per hectare per year," Department of Agriculture and Food Senior Economist Allan Herbert said.

"If production was less, then the site would only need to achieve 760 sheep grazing days per hectare per year to break even over a 10-year period."

"The 10 cents per head per day value of grazing is derived from the equivalent cost of feeding sheep a maintenance ration of grain and hay."





In addition to the grazing benefits, the Bignells have profited from selling excess tall wheat grass seed harvested from the site in 2006.

Mr Bignell said the trial had driven home the message that saltland was not useless.

"It is looked upon as a liability ... but if it can run 32DSE (dry sheep equivalent) at the break of the season, it is an asset," he said.

"But you have still got to lower the watertable, or you are better off planting it to trees."

Mr Bignell farms with wife Sara and parents Dan and Helen in a rainfall zone of 430mm.

They produce wheat, canola, barley, oats, lupins and field peas, as well as Merino and Suffolk sheep.

The Bignells participated in the SGSL trial hoping to increase returns from the paddock by being able to use it for deferred grazing, and through lowering the watertable.

It was too early in the trial to have any meaningful data on whether the watertable was dropping at the site.

The land comprises mainly barley grass country, but ranges from bare salt scalds to clover-bearing land.

Salinity first appeared in the area more than 20 years ago, and the paddock had been used for pasture for 12 years prior to the trial commencing in 2004.

The Bignells planted an adjoining 38ha paddock back to trees six years ago.

"We wanted to do something profitable."

"But that wasn't something we wanted to do lots of," Mr Bignell said.

"We wanted to do something profitable."

The trial paddock was seeded in 2004 with a 'shotgun' mix of many different perennial pasture species in a bid to find out what grew best on the land comprising quartz-type, duplex soils.

"Tall wheat grass seems to have been the most successful and old man saltbush has done well," Mr Bignell said.

"Balansa clover has done well in areas."

Mr Bignell said the shotgun mix was very expensive, and he probably would not use it again.

"I think we would stick to old man saltbush, tall wheat grass and balansa, and we would also be more site-specific," he said.

Mr Bignell said the trial paddock proved a saviour during dry conditions in 2006, when it was grazed by 1595 ewes at a stocking rate of 32 DSE for six weeks from 24 May.

The Merino hoggets maintained their weight over the six-week period.

The sheep received relatively small amounts of supplementary feed – oats and faba beans - over a period of just over a fortnight, equivalent to 130 grams per head per day.

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Mr Bignell said that although the paddock proved invaluable for grazing in 2006, it was worth noting that it had been kept out of production for nearly two years while the pastures were being established.

He said the planting of the pastures on August 2004 using their own equipment was no more difficult than seeding clover.

"It was just a matter of calibrating the airseeder," Mr Bignell said.

"We had a terrible finish to the season in 2004, but we had summer rain that helped it."

Mr Bignell said that with the benefit of hindsight, they would have kept better records relating to the trial, and improved weed control.

Since participating in the trial, the family had planted other areas of the farm to tall wheat grass.

They intended to plant just tall wheat grass on saline country covered by barley grass, but would consider using other perennial pastures such as saltbush on more saline land where bare salt scald was starting to emerge.

The family aimed to graze sheep on these revegetated paddocks at the break of the season to defer grazing on better paddocks.

However, to do so most effectively, they wanted

more information about grazing management issues including pasture digestibility and whether or not lambing ewes could be run on them.

Department of Agriculture research officer John Paul Collins said the trial site offered the Bignell family particular grazing benefits.

"The Bignells put in a large proportion of their farm to crop, and this site offers them a great opportunity to graze their ewes after their stubbles have been grazed down and can allow their pasture paddocks to increase in plant density," Mr Collins said.

He noted the excellent plant establishment achieved on the trial site, thanks in part to the precise accuracy of seed placement obtained with Mr Bignell's airseeder.

Another positive outcome related to the harvesting of tall wheat grass seed.

"In March 2006, Craig harvested 1.2 tonnes of viable tall wheat grass seed off the site to be used for future seeding," Mr Collins said.

"However, there has been a chronic shortage of tall wheat grass seed due to drought over east and our strict quarantine regulations, and Craig has been able to sell this surplus seed to other farmers and provide a useful supplement to his income."

QUICK FACTS



Location: 10km east of Broomehill

Rainfall average: 432mm

Enterprise mix: Merino & black-faced Suffolk sheep and cropping

Trial size: 49ha

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

To be able to maintain the weight and condition of Merino ewe hoggets over a six week period between May and June with minimal extra supplement.

Saltland Pasture mix: Glen Oliver Mix of tall wheat grass, lucerne, balansa, puccinellia, wavy leaf saltbush, old-man saltbush, river, Rhodes grass, kikuyu, signal grass and Bambatsi panic

Original vegetation: white gum and flat top yates

Paddock cover before trial started: Barley and silver grass

Soil type: Sandy duplex

Watertable: -1.46 to -0.56m

Water salinity: 2840mS/m (approx half seawater)

Water pH: 6.84 to 7.49

Clearing date: 1950s



A word from the gate...

Perennial pastures have been shown to consistently offer benefits to livestock production whenever they provide substantial amounts of green herbage outside the traditional growing season. Combining saline land with salt tolerant summer-active perennials is one way to realise this benefit as demonstrated by the SGSL trial on the Bignells' property running high stocking rates at the break of the season while allowing annual pastures to establish.

A number of additional findings also emerge from this trial.

1. 'Shotgun' mixes sown on small areas can be an effective way of learning which species are suited to the situation but for general use can prove expensive as you are wasting money on unsuitable species. Another problem with 'shotgun' mixes is that species that possess weak seedlings rarely do well in mixes of this type but could prove to be suitable if either sown in separate rows or alone. When it's clear which species are appropriate for a given situation I don't recommend shotgun mixes.



Paul Sanford

2. Spring sowings, if possible, are generally lower in cost and breakeven earlier than autumn sowings, as pasture availability is high in spring compared to autumn and as a consequence the loss of grazing is minimised.
3. Perennial cultivars that are in the public domain and for which seed is easy to harvest offer the potential of lower seed costs and additional income.

One advantage of including old man saltbush in the mix is that it is the only species that will establish on the more saline areas ensuring plant cover on an area that would have been bare ground otherwise.

This SGSL trial reinforces the general finding that tall wheat grass and balansa are highly suited to mildly saline situations on a wide range of soil types and provide significant benefits to a livestock production system.

Paul Sanford is Senior Research Officer with DAFWA. He works exclusively with perennial 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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