

“I wish I had more saltland...”

One would have to dig pretty deep to find a farmer more passionate about combating salinity than Lex Stone. The animated, self-confessed conservationist says he'll never walk away from doing his bit to constructively lower the water table as he discussed with Laureta Wallace.

“Twenty five years ago I worked on engineering solutions to pump groundwater out of here,” Lex said.

“Then I woke up and thought ‘hey we have this water – let’s use it.’”

We have an ocean under our back paddocks and while its not quality water – water’s water.

We’re living in a dynamic environment with climate change and global warming and we need to find strategies to cope with it.

When thinking of ways to use the ‘problematic’ water, I consulted with Dr Ed Barrett-Lennard from the Department of Agriculture and Food, Western Australia (DAFWA). He took one look and said, ‘you need to get stems in the ground – as many as you can’.

So with help from the Saltland Pastures Incentive Scheme, I created, what I like to call, ‘living haystacks’ – alleys with different plants integrated together – rows of oldman saltbush, Eyre’s Green Giant with barley in between.

Through the Saltland Pastures Association I learnt a whole new set of skills – we now have a home nursery where we cultivate saltbush seeds and then direct drill them.

farm info.

Case study: Lex Stone

Location: North-west of Corrigin, Western Australia

Property size: 1200 ha

Annual rainfall: 250 mm

Enterprises: Wheat, barley, Merino sheep

Soil type: Sand over gravel



Photos: Robbin Campbell

Integrating saltbush with barley stubble provides a living haystack for Lex Stone’s Merino sheep.

key points

- With some lateral thinking groundwater can be used to advantage
- Saltbush and barley paired in an alley system provide a complementary livestock feed source
- Finding the right plants for saltland is the key to increasing productivity and keeping salinity at bay.

Grazing management

This year we used the 120 hectares of ‘living haystacks’ to run 1000 joined ewes. We let the sheep into the saltbush/barley stubble alleys during about mid-April. We left the alleys ungrazed until autumn because the saltbush pumps the most water from the ground during summer and when it has full leaf cover.

The barley had previously yielded 1.8 tonne per hectare and was of malt quality.

We didn’t feed out lupins or hay at all. The ewes grazed the alleys for about three months. They really belted the saltbush.

This year we had a 110 per cent lambing rate and our wether lambs brought \$110 per head and our ewe lambs \$85/head.

Keys to success

The keys to the success were the fresh drinking water, barley and saltbush. Because the saltbush is sucking so much salt from the ground the saltbush feed is pretty salty for



sheep to eat. Therefore, the sheep need a good, reliable fresh water source.

Don't get me wrong the saltbush isn't sheeps' number one preference – they go for the barley stubble first and then eventually get onto the saltbush.

I'm not a big numbers man but I'd have to say now that our alley paddocks are the most profitable on the place.

I'm actually considering the bold move of removing some of the saltbush from the tightly-planted alleys, because I believe the water table has been sufficiently lowered to allow wider bays of barley to be sown again.

I say thank goodness we have this water resource underneath – it is a huge resource. Thank goodness for sheep also. Other farmers shake their head at my statements but I have people come and visit the property each year to view our alleys. They only need to look at my paddocks compared with the salt-smothered paddocks of adjacent farmers to see how the alley system works.

I'm looking at incorporating a wider-range of salt-tolerant plants in the future such as salt-tolerant wheat. As well as a production imperative, I believe farmers have an environmental responsibility to tap into their underground water and use it. Otherwise it



Lex Stone thinks the sky is the limit for salt-tolerant perennial plants on salinity-prone land.

will cause ecological problems further down the line in rivers and streams.

Western Australian has 75% of Australia's salinity and here in the Avon catchment we have 50% of that. We can't afford to walk away from the issue – I'm certainly not going to. I wish I had more saltland!" 🌱

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science behind the story

By Dr Ed Barrett-Lennard

- Lex has seen the writing on the wall and acted accordingly to combat salinity on his property. There is no doubt saltbush has a real role in reducing water tables – basically green leaves transpire water. As a result, there are a number of benefits that flow from the saltbush/barley stubble system.

There is anecdotal evidence that saltbush provides shelter for lambing ewes – which is reflected in the increased lambing percentage. Saltbush is also a great source of Vitamin E. It is a well-known fact that many sheep suffer from Vitamin E deficiency during summer. Farmers who just hand feed grain are not addressing this problem. The combination of green feed (the saltbush) with the grain left on the barley stubble and even the barley leaves provides energy, protein and Vitamin E.

The system also spells the new-season winter pastures allowing them to properly establish and get away.

It doesn't surprise me Lex wishes he had more saltland. Smart farmers are becoming aware of the opportunity this water presents them. However, it is important to be able to recognise what type of salt-affected land can be 'saved'.

We're not talking about the acutely-affected land but rather the moderately-affected, 'at risk' land. This is where Lex has been prompted to take action. He also has the advantage that his soils are relatively sandy, so if the water tables are drawn down, there can be a large decrease in salinity at the soil surface.

By putting salt-tolerant perennials back into the landscape to increase water use, he is paving the way for the long-term viability of his cropping enterprise. But essentially he has two products in one

system – a cropping operation and also a sustainable livestock enterprise.

Lex is correct in his desire for more salt-tolerant plants – especially for more salt-tolerant cereals. The Future Farm Industries CRC is definitely a stakeholder in seeing such new varieties develop.

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