

# Saltbush proves valuable ‘living haystack’

**E**stablishing old man saltbush on unproductive areas has helped Peter Kroehn, Waikerie, South Australia, significantly increase stocking rates and reduce sandhill erosion. He recently shared some of his experiences with Kylie Nicholls.

“I have always been interested in growing perennial plants but we can’t grow lucerne due to insufficient rainfall, so one of the few options available was old man saltbush.

Planting saltbush on our marginal country fits in well with our cropping enterprises. I like running sheep and want to maintain our livestock enterprise, but to do that we need to have a ‘living haystack’ of perennial plants. At this stage saltbush is very valuable – it does well on our country and grows prolifically if managed correctly.

Our average stocking rate is about 0.5 sheep/3 ha but saltbush allows us to increase this to 3.5 sheep/3 ha. This is a significant improvement considering it only cost us about \$370/ha to establish.

## Early planting days

We started planting saltbush during 1995 after seeing a patch planted on a neighbouring farm.

In the early days we sat down and carried out some property planning to map where best to plant. We used an aerial photograph and our own knowledge of the different soil types and topography while taking into account fence locations and distance of waters.

We started by planting 28 ha on some of our better country that we could have kept cropping. The location was selected due to its close proximity to the sheepyards and water.

We now have about 162 ha of saltbush and the remainder has been established in hard

## key points

- Establishing areas of saltbush on marginal land can provide a productive fodder base to sustain increased stocking rates
- Ensure the saltbush is grazed for no more than six weeks during autumn
- Supplementary feeding of grain or hay is crucial to provide a balanced diet.

## farm info.

**Case study:** Peter Kroehn

**Location:** Waikerie, South Australia

**Property size:** 4500 ha

**Mean annual rainfall:** 235 mm

**Soils:** Sand to sandy loam over stone

**Enterprises:** Cereal cropping, self-replacing Merino flock, prime lambs



rocky areas where little else will grow. Saltbush was also planted along sandhills, which have previously blown, to stabilise the ground and reduce erosion.

Most of the saltbush areas vary from about 6-12 ha with many based at the end of paddocks where the rocky ground is located – it was pretty simple to fence off.

The entire property is on reticulated water from the Murray River so we extended water pipes and troughs to ensure water access for sheep grazing the saltbush.

We bought a saltbush planter developed by Western Nursery at Waikerie, which I like to describe as a bullet-proof veggie planter. With it we can plant between 10,000-15,000 plants per day.

The saltbush planter has a scrape on the front, which pushes away the weed seeds and grass to reduce competition. It then rips a line in the soil down the centre and every 1.6 m a plant pops into the ground.

We apply a slow-release fertiliser at planting and although it is recommended to water them in, we don’t bother as generally we aim to plant during winter when there is some sub-soil moisture available – the boggy the ground is the better.

Initially, I trialled planting rates from about 1200-1700 plants/ha. But I think a rate of about 1200/ha is best. Planting at the higher rate seems to cause too much die-out due to added competition.



Planting saltbush on marginal areas of his Waikerie farm has allowed Peter Kroehn to increase stocking rates and help reduce sandhill erosion.

The only other equipment we need to maintain the saltbush after planting is a brushcutter, which we use to trim the plants during September, allowing them sufficient time to grow before being grazed.

## Intensive autumn graze

The sheep graze the saltbush for a five-to-six-week period during autumn, after the stubbles have been depleted.

We could probably graze it twice a year and we have trialled this. However, we believe one annual 5-6 week feed is more beneficial and extends the production of the saltbush.



It is a living haystack of annual feed and we know we can come back with 1000 extra sheep, run them in the saltbush and maintain our stocking rates.

I use visual indicators to assess when the saltbush is ready to be rested. Generally, when you drive through the saltbush paddock and you can easily see the sheep, it is time to remove them, but it must be within a six-week period.

One important thing I have learnt is you must provide sheep with supplementary feed while they are grazing saltbush – it contains a lot of salt and oxalates.

If we have 6 ha of saltbush grazing 100-150 sheep on it we generally feed out about two round bales of oaten hay per week as a supplement. We also supplementary feed oats.

### Lamb protection

We often lamb down in the saltbush to reduce mismothering. It is so sheltered and quiet and because it is also contained in a small

area ewes are quite happy to wander off for a feed and leave the lambs behind, easily finding them again.

I would estimate that lambing down in the saltbush significantly increases our average lambing percentages by as much as 10-15 per cent. The average lambing rate is 90%.

The saltbush has proven to be a valuable addition to our farm, stabilising the sandhills, increasing stocking rates and also has the added benefit of providing important shelter to lambing ewes.

Our sheep enterprise works well with our cropping enterprise and although it has a smaller economic value, I do not want to go down the path that many other croppers have and not run any sheep. I like them and think that in our area it is important to have some diversity on your farm.

### Perennial options

I have become involved in the *EverCrop*® project and the Local Adaptation Group,

which are looking at the role of perennials in mixed farming systems in the Mallee.

We have about 400 ha of open plains country, which has a mix of native grasses, shrubs such as *Eremophilas* and *Myoporums* and wildflowers on it. Over the years, we have let the country deteriorate and have had to change our management to survive. But I would like to help the country recover.

I hope the *EverCrop* project can show the role perennial plants can play in the Mallee and that the *Enrich*™ trial will offer some other perennial plant options for us. 🌱

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### By Dr Rick Llewellyn, CSIRO

- Many farmers are looking for a more resilient crop-livestock system that allows for a flexible cropping program while maintaining a substantial livestock enterprise. This balancing act needs a reliable fodder base and this is where *EverCrop*® research fits in.

The Future Farm Industries CRC's *EverCrop* project aims to develop a profitable role for perennials in mixed farming systems. In the low-rainfall Mallee of SA and Victoria, the project is looking at where perennials, such as fodder shrubs can be most profitable. This requires a whole-farm approach. *EverCrop* has established a Local Adaptation Group of 10 farmers near Waikerie, including Peter, who are helping guide the research being conducted with CSIRO and DPI Victoria.

Saltbush has been one of the main perennial fodder plants grown across the Mallee but most farmers have only planted small areas, often to rehabilitate saline or eroded land. The trade-off with potential crop production is an important consideration. As such, saltbush often is planted on land deemed too marginal

for intensive cropping – in Peter's district this is often stony land.

The productivity and water-use pattern of fodder shrubs across a range of Mallee soil types and seasons is the subject of field experiments and modelling led by Dr. Anthony Whitbread (CSIRO). We aim to identify where and how these fodder shrubs might prove most profitable under current and future climate scenarios.

Peter has one of the larger areas of saltbush planted for fodder in the region. But there are many reasons why other farmers do not plant large areas to fodder shrubs. Constraints include high establishment costs, relatively low annual dry matter production of existing species, feed quality and in some cases, concerns about longevity.

Most valuable is the ability of the shrubs to provide fodder at critical times, such as autumn and drought. But increasingly it is recognised that what grows between the rows is as important to the productivity and profitability of fodder blocks.

There is a local shift towards concentrating cropping inputs on the most responsive soil types and at the same time maintaining business diversity by running a low-cost livestock system. As such, there is a growing level of interest in how to gain

greater grazing value from marginal soils. As well as looking at some potential grass options, *EverCrop* has partnered with the *Enrich* project and has established a field site where 15 alternative perennial shrub species are being tested for establishment and fodder production. The site includes a diverse range of *Atriplex* and *Rhagodia* species and other native plants such as *Eremophila*.

By integrating field research and modelling plant performance across soil types and seasons, farmer experience and whole-farm bio-economic analysis, *EverCrop* in the Mallee is evaluating options and building the capacity to look ahead to the best mix of plant options to serve future mixed farming systems.

- *Dr Rick Llewellyn is a Farming Systems Scientist with CSIRO and co-leader of the national EverCrop project. In the Mallee, research partners include CSIRO, Vic DPI and SARDI in collaboration with Rural Solutions SA, Murray Darling Basin NRM, Mallee Sustainable Farming and BCG.*

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