Subtropicals set pace for rapid transformation

Subtropical pastures have transformed the landscape on Marty and Karen Brennan's mixed farming property in northern NSW and Marty shares his enthusiasm about his productive perennials with Catriona Nicholls.

"We run a mixed farming enterprise where we crop on our most productive ground and have traditionally run sheep on the poorer country," Marty said.

"Our pastures were a mix of lucerne and native grasses, but with increased dry seasons the lucerne just wasn't coping. When the leaves fell to the ground, the soil was exposed to the heat during the dry summers.

Our native grasses just weren't giving us any bulk feed and any carryover feed they had tended to be worthless without rain.

So we were looking for something that would boost our livestock production and give us better groundcover to prevent our soils from washing away during heavy storms.

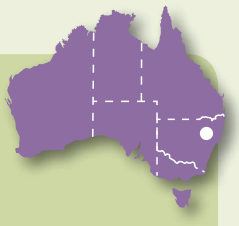
Other local producers were having great success with subtropicals, so we thought it was worth giving them a go.

Getting started

After much procrastination we started off after the local Namoi Catchment Management Authority got some funding and we were away.

We sowed Katambora Rhodes, Bambatsi panic, 'consol' lovegrass and premier digit as a bare seed mix at 4 kilograms per hectare with 70 kg DAP fertiliser.

farm info.



Case study: Marty and Karen Brennan

Location: Boggabri, New South Wales

Property size: 1600 ha

Mean annual rainfall: 600 mm

Soils: Alluvial flats to heavier chocolate country and red gravel ridges

Enterprises: Sheep, cattle and cropping

Photos: Lester Thearle

Marty and Karen Brennan have been overwhelmed at how the subtropical grasses have revitalised land they previously considered to be their least productive paddocks.

key points

- Subtropical pastures have transformed country that previously struggled to be productive
- Stocking rates have increased, run-off has reduced and soil structure has improved under the subtropical perennials
- Success with subtropicals relies on a change of mindset from set stocking to rotational grazing.

We were a bit late sowing as we were still using conventional machinery and undertook a few preparatory cultivations to get the weeds under control first.

But after getting the pasture in between Christmas and the New Year, we were grazing it by February with sheep and cattle.

We were absolutely gobsmacked with what the paddock did – we started with our worst country and it just transformed it into some of our best feed in no time.

Spreading the benefits

Our next step was to sort out a bit of plan with how to bring the rest of the farm into subtropicals, while still copping our better country.

We've now got about 445 ha of subtropicals established and we're working hard to match feed with stocking rates and water.

It's bit hard to quantify, but we've certainly increased stocking rates with of the subtropicals.

We've also had to reduce the size of the paddocks to make the best use of the feed.

We had to install a reticulation system for stock water as their is no longer any run-off on the paddocks – it's not a bad problem to have.

And we've seen a transformation in the soil – it now takes in the water easily, the organic matter created from the bulk of the feed is making an environment that allows the nutrient cycle to really get going.

Weed Risk Note: Future Farm Industries CRC advises farmers to be wary of not confusing 'consol' lovegrass with African lovegrass, which is a declared noxious weed in Australia.

The country you couldn't drive a crowbar into before you can almost just push a shovel in now.

I'm amazed at how quickly the country has responded and what it can actually do — we've never seen it grow so much feed.

Facing the challenges

Probably the biggest challenge we still face is a dry autumn. If you don't get a break and some clovers happening you can have a bit of a quality feed gap during late autumn.

We usually have a good carryover of feed after the subtropicals dry off. But without an autumn there is a bit of a gap where the feed isn't quite as valuable. But you've got to weigh that up with the rest of the year.

Paddock size or mob size is important just so you can move stock in to eat the bulk down and move them on — it's a totally different scenario to the old set stocking regime.

It's a matter of getting your head around set stocking as it takes a bit of getting used to.

There's still heaps of feed in the paddock but you're moving the stock out of it.

Before we made the move to subtropicals, we'd done a lot of investigation through field days and talking to lots of people — somewhere along the line you realise you've just got make the change.

People often shy away because of the costs and risks involved with establishing subtropical pastures.

But we look at in two different ways — we've grown wheat crops before that have failed and we've gone back in the next year. It's the same with subtropicals.

Secondly, if you get a successful establishment it's cheap — the pasture will be there for a long time. People still go back in and grow oats year in year out and don't question the cost of doing that.

In terms of additional inputs, we do fertilise the subtropicals when the cash is available.

If you've got the whole-farm plan right, where your paddock size is right and your water is right, you'll get the most value out of the fertiliser you put on.

The subtropicals are a real success story for our mixed farming system. In a dry season like this, where we have only had 254 mm of rain for the year, 63 mm during the growing season — our crops have suffered. But we've had a bit of rain during harvest and the grasses have jumped away to a great start.

We've still got a way to go with our livestock system, but the subtropicals are helping us with our move from trade cattle to a breeding operation and have transformed our pasture country along the way."

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science behind the story

By Lester Thearle, Namoi CMA

- **The practice of sowing subtropical perennial grass pastures in north-west NSW has been about for several decades but their widespread use has been fairly restricted.**

This is changing with more and more farmers, such as Marty and Karen Brennan, realising the potential of these pastures and successfully establishing them to great advantage.

The big increase in the use of subtropical grass pastures is in response to growing concerns by many farmers about several factors. These include the cost of and reliance on fodder crops, the lack of productivity and groundcover of annual pastures, the lack of productivity of many poor native pastures, the low or negative returns from marginal cropping country and the lack of groundcover and short productive life of lucerne pasture.

Subtropical grasses can provide growth for up to nine months of the year. At times they can provide in the order of 13 tonnes per hectare of highly nutritious feed and can persist for many, many years — even decades.

On top of this production, their vigorous and extensive fibrous root system can reach several metres into the soil profile, adding enormous benefits to soil structure, carbon sequestration, water use efficiency, nutrient cycling, soil biology and general soil health.

The keys to successful use of subtropical pastures lie in their establishment and follow-up management.

At sowing, weed competition is the major killer and clean country is a must. To achieve this country it is best cropped for at least two years before sowing. Sow early in the season for maximum probability of germinating rainfall (mid October to early November is ideal). Use good quality seed with a high germination percentage and sow at shallow depth (consol lovegrass is best sown on the surface, all other species at 6 mm depth).

Sowing suitable species also is important and the species Marty and Karen have used have proven to be the best combination for establishment, durability and grazing value for their area.

Without follow-up management, these pastures will not last. Rotational grazing, with significant rest periods, taking only about one third of the feed on offer at any one time will provide vigorous, long-term stands. They love nitrogen — so legumes and topdressing each spring with at least 200kg/ha of sulphate of ammonia or equivalent in urea will achieve outstanding results.

I know of no better way to achieve what Marty and Karen have acheived in boosting their grazing productivity and improving the soil, than with their use of subtropical grasses.

- *Lester Thearle is a Production Systems Officer with Namoi CMA. He is involved with grazing projects funded by Namoi CMA aimed at improving the productivity and sustainability of perennial grass based livestock systems.*

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