

What's Happening in Carbon Farming?

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Kikuyu pastures built for the South Coast

In the early 1970s, Ken and Jan Reddington obtained a conditional purchase block at Bremer Bay, which over the past 40 years they have developed into a productive farm called Malamerup.

Ken and Jan currently operate the farm with their son Paul and his wife Alice and focus mainly on grazing, running sheep for prime lamb production and super fine merino wool, as well as cattle for vealer production. During development of the farm, the Reddingtons realised the region's regular strong winds had the potential to cause significant soil erosion, prompting them to research various ways of stabilising their top soil.

They considered land use change, using tree belts or planting a hardy deep rooted perennial pasture. Eventually, they discovered a solution that not only stopped wind erosion, but also had production benefits.

"On the South Coast we get out of season rain events, with probably 25 to 30 per cent of it in summer," Ken Reddington said.

"We get strong wind events too and found sheep would camp in one area and water in another, all leading to a "perfect storm" condition - if a paddock could blow, it did blow. So, we looked at different options to stabilise the top soil. The perennial pasture kikuyu was the one we chose because it was virtually bullet proof. It stabilised the soil and responded to those summer rain events. We got good quality green feed off it and ended the problem of blow."

The BENEFITS of KIKUYU

The suitability and benefits of kikuyu have resulted in many positives for the Reddingtons' livestock production and the sustainability of their land.

"Now we have kikuyu planted, the late summer autumn period is not as stressful as it used to be," Ken said. "I would be on tenterhooks, wondering when the break of the season was coming and would lose top cover and my feed before the break arrived, so I would have vulnerable paddocks and have to lock the stock up and feed lot them."

"At the moment we know we've got cover on the paddocks and can push them pretty hard without risking wind blow. In the late summer and autumn you wouldn't have anything else. I love kikuyu then, especially the way it responds to summer rain. If we get a thunderstorm it becomes electric green, it really bounces out of the ground and you'll have an inch of it virtually overnight. It's built for this country or this country's built for it."

BENEFITS of PERIODICALLY CROPPING into KIKUYU

Although kikuyu proved a great benefit to the farming system, some management issues were discovered which needed addressing, particularly after the kikuyu had been established for around 20 years. The kikuyu had done an excellent job at stabilising the Reddingtons' paddocks and taking advantage of summer rainfall when it occurred.



Ken and Paul Reddington say kikuyu gives them the ability to grow a cash crop if the conditions are favourable.

However, in the older paddocks it wasn't growing with such vigour and was becoming more of a proposition for sheep rather than cattle.

"The kikuyu had become very dominant and started to choke out certain annual species, especially when they had false breaks the clover would really struggle," Paul Reddington said.

Ken and Paul noticed the kikuyu responded well, everywhere it had been worked or "tickled up". This prompted Paul to suggest cropping canola into kikuyu for one to two years.

"Canola has a large tap root, so by cropping it, the root would work as a soil aerator," Paul said.

"We could also utilise the crop to knock the kikuyu back. It also provided us with the ability to get a cash flow off it, while simultaneously controlling the kikuyu."

Growing kikuyu has given the Reddingtons a reliable source of feed for their livestock. They're also able to utilise out of season rainfall, have the ability to grow a cash crop if the conditions are favourable and most importantly, have confidence their paddocks will remain stable throughout the year.

PERENNIAL PASTURES and SOIL CARBON

Perennial pastures are expected to store more soil carbon than annual pastures due to their extensive root systems which persist all year round. Soil carbon plays a pivotal role in contributing to the physical, chemical and biological processes of soils and is essential for having a healthy soil.

The Reddingtons were interested to see if the soil carbon had increased in the paddocks planted to kikuyu and if cropping into it affected soil carbon stores. South Coast NRM in conjunction with UWA, conducted research on the farm to find out more. They compared total soil carbon from 0-30 cm under three different farming systems: annual grazing, kikuyu grazing (15 years) and crop converted from kikuyu paddock (15 years).

Sampling method was consistent with the CSIRO's Soil Carbon Research Program methodology. The results show total soil carbon is higher in a kikuyu grazing system compared to an annual grazing system and by cropping for up to two years into a kikuyu grazing system, does not change total soil carbon.