

Does cropping into kikuyu reduce soil carbon?

No, even after two years of cropping into kikuyu, soil carbon levels are maintained.

"Kikuyu has done a great job at stabilising our paddocks and taking advantage of summer rainfall when it occurs. The older paddocks were starting to look stagnant with limited feed production compared with our more recently planted paddocks. So a few years ago we trialled a renovation of these paddocks and converted them to crop for one to two years".

KEN REDDINGTON, FARMER, BREMER BAY, WA.

SOIL CARBON FAST FACTS

Soil carbon plays a pivotal role in contributing to physical, chemical and biological processes and is essential for a soil to remain healthy.

Soil carbon also:

- Provides energy for biological processes for nutrient cycling.
- Enhances water holding capacity.
- Improves soil structure and stability by binding particles together.

WHAT ARE THE BENEFITS OF KIKUYU?

- It stabilises top soil to reduce erosion.
- It utilises summer rainfall to extend the green feed season.
- It increases soil carbon which adds water holding capacity.
- It is resilient enough to allow growing an annual cash crop without reducing soil carbon, maintaining farmers' capacity to participate in the evolving carbon economy.

WHAT ARE THE BENEFITS OF PERIODICALLY CROPPING INTO KIKUYU?

- Allows diversification of income.
- Improves pasture productivity by reinvigorating the kikuyu.
- Provides additional grazing opportunity of stubble.
- It allows farmers to take advantage of unseasonal rainfall events, making farming systems more robust against future climate variability.

SOIL CARBON TRIAL

Our aim was

To investigate how cropping into a kikuyu pasture affects soil carbon.

To do this, we compared total soil carbon under different farming systems within the same farm:

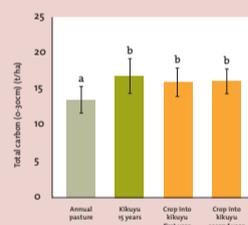
1. Annual grazing system
2. Kikuyu grazing system (15 years)
3. Crop converted from kikuyu grazing system (15 years)

How we did it

We measured total soil carbon by randomly distributing 25m x 25m quadrats to sample the soil profile from 0 - 30cm. This testing was consistent with the Commonwealth Scientific Industrial Research Organisation's Carbon Research Program methodology.

What we found

- Total soil carbon is higher in kikuyu grazing systems compared to annual grazing systems.
- Cropping for up to two years into a kikuyu grazing system does not change the total soil carbon.



Means of total carbon (0-30cm) in different farming systems. Different letters in columns denote Fisher's statistically significant difference (P < 0.05). Bars are standard errors.



"Since cropping into the kikuyu we have noticed it comes back looking healthier, more invigorated and with increased production. Incorporating kikuyu into our farming enterprise has been a lifesaver."

PAUL REDDINGTON, FARMER, BREMER BAY, WA.

Farmer Profile: Ken and Paul Reddington
Location: Bremer Bay, WA.
Average Annual Rainfall: 520mm
Enterprise mix: 80 per cent livestock (sheep and cattle) 20 per cent cropping
Soil Type: Sandy duplex (non-wetting)

