

Success With Soil Carbon Farming



Motivation, challenges, opportunities and rewards – the story of soil carbon farming on Peter and Julie Ramsey's property.

Ten years ago, Peter and Julie Ramsey concluded that they had to do things differently to ensure a brighter future on the land for their children and families. The farm has been in Julie's family for three generations and they are keen to maintain that connection.

The whole process of establishing the soil carbon project was made easy by signing up through a Carbon Manager. The Carbon Manager is responsible for managing the registration, ongoing monitoring, and associated paperwork, including soil testing and reporting. These costs are covered over time as credits from the soil carbon are awarded.

"This arrangement makes it easy and with the added bonus of the carbon credits, we sleep much better at night." For Peter and Julie, the real motivation to start a soil carbon project was to increase production from paddocks that were getting tired after 100 years of grazing.

"Being able to leave the farm in a healthy and more productive state was a major driver. So why not get the benefit of carbon credits while we are doing it."

"More standing feed for the livestock has increased production and decreased input costs as the improved soil does all the hard work with a bit of help from us."

"Increasing carbon in the soil provides the skeleton or space for all the good bugs and fungi to live in the soil which makes plants and animals grow better."

Carbon is present in soil in inorganic and organic forms. Inorganic carbon (mineral-based material like carbonates) is less responsive to management than soil organic carbon (SOC). SOC makes up about 58% of soil organic matter (SOM) which is known to have many benefits for productivity, climate resilience and ecosystem health. Increasing SOM improves soil structure, increases nutrient cycling and enhances diversity of soil organisms.

Increasing the amount of organic matter in soil has long been recognised by agronomists and farmers as beneficial for soil health and plant growth. SOM comprising plant residues, root exudates and microbial and larger soil fauna biomass, contains around 58% carbon (C) by mass.

This carbon originates from atmospheric carbon dioxide (CO₂), which plants absorb through photosynthesis and convert into organic molecules for growth. When plants shed leaves, roots, or die, this organic material becomes food and energy for soil microbes and fauna, enriching the soil ecosystem.

Carbon sequestration is the process of removing carbon (in the form of CO₂) from the atmosphere and storing it in sinks such as vegetation and soils permanently (for centuries or millennia). Appropriate management actions can increase sequestration of organic carbon in agricultural soils and contribute to mitigating climate change.

Source: The Farm Business Resilience Program is jointly funded through the Australian Government's Future Drought and the Queensland Government's Drought and Climate Adaptation Program



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The first step for the Ramsey's soil carbon project was to install an exclusion fence to better manage grazing pressure. A mix of grass, legumes, forbes, brassicas and chenopods were seeded into the disturbed ground following clearing. Fencing of paddocks has allowed effective management of grazing pressure with pasture recovering much quicker. Stock are a key part of the soil carbon cycle the Ramsey's have recreated, providing the disturbance and manure that plants and soil need to sequester carbon.

Benefits

Major changes that Peter and Julie have seen include more water being held in the soil, and increases in ground cover and grasses.

"Before soil carbon levels started going up, 2-3 inches of rain would just run straight off, and we would be looking for more. Fast forward to now, the increased carbon makes the soil spongy so 2-3 inches is soaked up and we aren't looking for rain again for six weeks. With rainfall getting more unpredictable, the more moisture we can store in the soil, the longer our pasture holds on and the quicker we can turn livestock off."

"The country looks better and so does our future as the project will help us and the family to stay on the farm living a life we love like those before us and those who will inherit the farm in an improved state. The carbon credits are only part of that inheritance but are providing us all peace of mind in these rapidly changing times."

Challenges

Peter sees challenges as an opportunity that lead onto the next part of the journey in making the farm more productive. Even registering and managing the soil carbon project (which is only part of the journey) should not be seen as a barrier. The Carbon Manager takes care of the market side of the project and many of the costs are covered by the soil carbon project.

"We are very comfortable and appreciative of the work and support of the Carbon Manager. There are plenty of people ready to share knowledge and support us in our quest for better productivity and resilience from our paddocks."

"It is an ongoing journey which provides many rewards, not just financially."

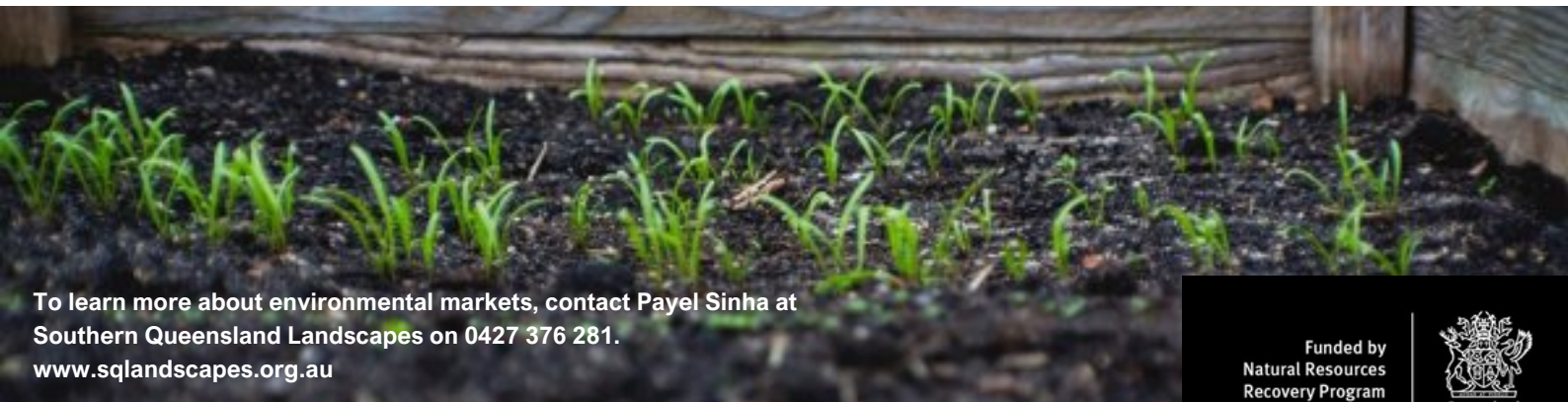
Key Points

The Ramseys chose soil carbon credits rather than vegetation carbon as their major motivation was improving productivity from their pastures and the overall resilience of the farm. Soil carbon stays on the farm providing ongoing production benefits well into the future.

Captured or sequestered carbon is measured as ACCUs which can be sold on a market, like shares on the stock exchange. One Australian Carbon Credit Unit (ACCU) represents one tonne of carbon dioxide equivalent (tCO₂-e) that would have otherwise been released into the atmosphere.

The Carbon Manager takes care of the market side of the project and carries out the soil tests to measure how much carbon has been captured in the soil. The soil testing informs the calculation of ACCUs.

The Carbon Manager operates according to strict regulations and a code of ethics that makes sure the farmer is treated fairly. The carbon credits are only part of the reward but can provide peace of mind in these rapidly changing times. More carbon in the soil helps store more moisture from irregular rainfall events, increasing productivity.



To learn more about environmental markets, contact Payel Sinha at Southern Queensland Landscapes on 0427 376 281.
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