

REDUCED CARBON FOOTPRINT

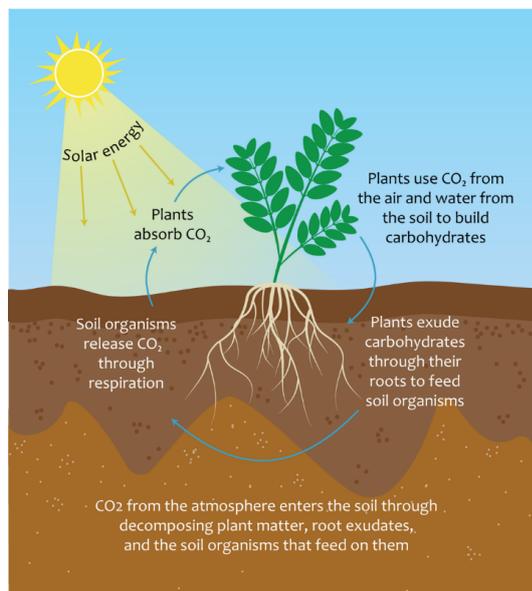
How does it work?

Regenerative grazing management principles aim to increase soil carbon storage through carbon sequestration and ultimately improve soil health and biodiversity. A number of studies have shown an increase in soil carbon in the range of 10-13% on regenerative farms compared to traditional grazing approaches¹.

Increasing the amount of carbon stored in agricultural soils can help mitigate rising greenhouse gas emissions²

What is soil carbon sequestration?

Soil carbon sequestration is a process in which CO₂ is removed from the atmosphere and stored in the soil carbon pool. This process is primarily mediated by plants through photosynthesis, with carbon stored in the form of SOC.³



¹ Mosier et al, 2021, Adaptive multi-paddock grazing enhances soil carbon and nitrogen stocks and stabilization through mineral association in southeastern U.S. grazing lands. *Journal of Environmental Management*, Volume 288

Rowntree, J.E.; Ryals, R.; DeLonge, M.S.; Teague, W.R.; Chiavegato, M.B.; Byck, P.; Wang, T.; Xu, S. Potential mitigation of midwest grass-finished beef production emissions with soil carbon sequestration in the United States of America. *Future of Food: Journal on Food, Agriculture and Society* 2016, 4, 31-38. 122

Teague, W.R.; Apfelbaum, S.; Lal, R.; Kreuter, U.P.; Rowntree, J.; Davies, C.A.; Conser, R.; Rasmussen, M.; Hatfield, J.; Wang, T.; et al. The role of ruminants in reducing agriculture's carbon footprint in North America. *Journal of Soil and Water Conservation* 2016, 71, 156-164, doi:10.2489/jswc.71.2.156.

² Csiro.au. 2022. Soil carbon - CSIRO. [online] Available at: <<https://www.csiro.au/en/research/natural-environment/ecosystems/Soil-carbon>> [Accessed 3 February 2022].

³ Lal, R. Carbon sequestration. *Philosophical Transactions of the Royal Society B* 363, 815-830 (2008).

Australia's Clean Energy Regulator (CER) (a federal government organisation) has co-created the approved methodology for creating Australian Carbon Credit Units (ACCUs) for farmers who can demonstrate an increase in soil carbon. Our regenerative beef program has partnered with leading scientists, soil analysts, consultants and educators to adopt the methodology of the CER and begin to determine the levels of soil sequestration in our supply chain. Soil carbon projects registered with the CER Emissions Reduction Fund (ERF) undertake the following steps under a 25 or 100-year project crediting period:

- A baseline soil sample is taken to determine the 'starting point' for any carbon project. This process involves mapping a farm to determine the Carbon Estimation Area (CEA) for a particular project (any land where soil sequestration can occur). From here, a team of soil analysts take 'cores' to the depth of 1 metre which are extracted by a drill-rig. Over one CEA, hundreds of cores can be taken to guarantee a true and accurate measurement across the entire property. These cores are then sent to a NATA-accredited lab, where the samples are analysed to measure the level of carbon in the soil (this process is called dry combustion technology).
- From here, the farmer then either initiates regenerative grazing practices or continues to do so (depending on their own situation).
- 5 years from the when the baseline is taken, a subsequent round of sampling (or cores) are taken across the CEA, with these cores being analysed by the NATA-accredited lab. This process continues every 5 years for the life of the project.
- Soil Carbon 'stock' analysis determines the level of soil carbon that has been sequestered between the soil sampling rounds. Australian Carbon Credit Units (ACCUs) are issued based on the increase in soil carbon 'stock', whilst removing the effect of any increase in carbon emissions due to the carbon project (such as from increased tractor hours or increased fertilizer use). Each ACCU represents 1 Metric Tonne of CO₂ removed from the atmosphere and stored in soil as Soil Organic Carbon.
- In between soil sampling rounds, properties are regularly monitored via satellite imagery (Cibolabs), property visits, grazing charts (MaiaGrazing) and other means.

To help manage this process, we have partnered with the following companies:

- CIBO Labs (www.cibolabs.com.au)
- Carbon Link (www.carbonlink.com.au)

With an ever-growing pipeline of properties creating soil carbon projects our goal is to continue to show the amazing role that regenerative farmers can play in creating a thriving and sustainable planet.