

Carbon Fixing in Vegetation Management



Vemco Group is committed to developing an environmentally sustainable business in all aspects of our operations to ensure we minimise our carbon footprint and that of our clients.

Given the focus of the community and Federal & State Governments on Environmental Sustainability, Climate Change, Energy Solutions and Carbon Pollution, Vemco Group is actively developing environmental initiatives and innovation.

Vemco Group are currently trialing the use of woodchip bi-product as a conduit for sequestration of carbon into the soil. In Victoria, Vemco Group in partnership with a local Landcare Group have committed to a research project that is investigating building carbon content of soils by incorporating woodchip biomass into the agricultural landscape.

Vemco Group's ultimate goal from this initiative is to provide the opportunity for our clients to become 'carbon neutral' by utilising woodchip biomass from vegetation management clearing works. This forms part of Vemco Group's commitment to developing an environmentally sustainable business by minimising our carbon footprint and that of our clients. If the results of this project provide scientific validation, Vemco Group plans to work with our clients to offset carbon using this technology.

CARBON FIXING PROJECT TRIAL DETAILS

The woodchip biomass is obtained through Vemco Group's network of vegetation clearing works from vegetation management contracts with electricity companies.

This research project is based on the increasing awareness of the important role carbon plays in our ecosystem, too much in the atmosphere contributes to climate change and too little in the soil reduces soil health, fertiliser retention, reduces water retention, depletes soil resilience and reduces the profitability.

It has been established that soil carbon is principally formed from decaying plant material (woodchip, mulch and compost) and sugars excreted by plants in part of a complex and poorly understood biological process. In soils, this material forms the base of a diverse biological food chain and forms the glue that binds soil aggregates and fertilisers. Vemco Group is currently funding research which enables the addition of chipped vegetation to the soil in a controlled agricultural environment to potentially lock in the carbon from the decaying plant material and simultaneously regenerate poor farm soils.

To date, commercial research has focused on increasing carbon content by adding inert carbon and biological farmers are assessing the capacity of in-situ biological fixation to capture and sequester carbon.



Fig 1. Vemco Group delivery of woody biomass

The Vemco Group "Building soils and fixing carbon" trial falls between these two approaches and is being conducted to assess building carbon content in soils by the combination of a) the addition of woody biomass and b) enhancing farm practices to encourage conversion of the biomass into humus and recalcitrant organic carbon that is biologically stable.

The project aims to:

1. Establish what volume of woodchip can be incorporated into the soil and to demonstrate a method of incorporation into the soil
2. Determine the correlation between woodchip addition and changes in soil carbon content
3. Evaluate the effect of woodchip addition on crop yield.

The trial has been running for 6 months, and year 1 results will be available in July 2011.

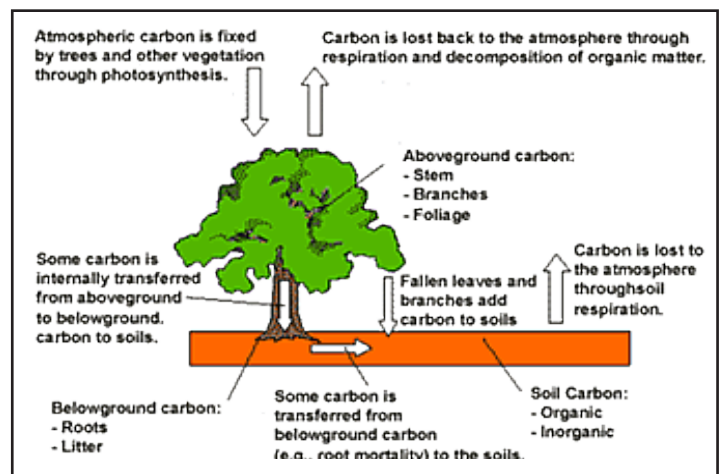


Fig 2 Carbon fixing process diagram



Fig 3 Aerial view of controlled trial sites to lock in carbon