

CARBON BOOST

COMPOST EXTRACT



Provide complex carbon through a boom spray. Complex carbon is missing in most agricultural soils but is the key to soil function.

Increase Resilience

Replacing complex carbon in soils kickstarts plant and microbe processes that improve how soils hold water, store nutrients, manage acidity and suppress disease. Each of these reduce plant stress and increase resilience to shocks such as drought.

Reduce Fertiliser Costs

Complex carbon in Carbon Boost increases fertiliser efficiency. This can in some cases allow nitrogen and phosphorus applications to be reduced by up to 50%. This improves profit, reduces soil damage and reduces exposure to world fertiliser prices.

Carbon Credits

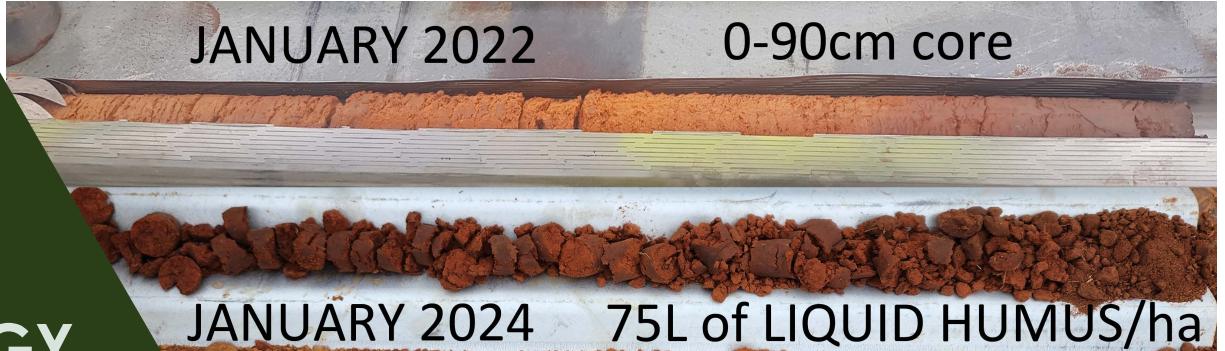
Applying Carbon Boost is an approved activity for Australian Carbon Credit projects. It directly adds carbon and also stimulates plants and microbes to further build soil carbon.

High quality composting is a manufacturing process for humus (complex soil carbon). Carbon Boost is an extract from high quality compost that can be applied at much lower rates than compost. 15 litres/ha is equivalent to 3 tonnes/ha of compost and is effective after weeks rather than months or years at 1/10th the cost.

PRODUCT RESULTS

SOIL CARBON %

We call it Carbon Boost, because it builds soil carbon. It encourages plants to grow more roots, with more roots tips. Plants inject carbon into the soil from their root tips in the form of sugars from their leaves. These sugars feed the soil bacteria and fungi, which then produce waste products that are stable carbon in the soil. Following applications of Carbon Boost farmers have seen increases of 1% (e.g. rising from 2% to 3% soil carbon) in the topsoil in 1 year. Over 2 years we've seen an increase of 0.5% down to a depth of 90cm.



SOIL BIOLOGY

Soil microbes are the workers of the soil. Along with worms and insects, almost every positive change in the soil comes from them becoming happier and healthier. Carbon Boost applications have regularly shown a sustained 500% increase in the number of microbes and an even balance between bacteria and fungi.

SOIL STRUCTURE

As a result of increases in roots and soil biology, changes in soil structure have been observed in as little as 2 weeks. We have measured significant reductions in density over 12 months where treated soil is twice as open as untreated soil in Northern NSW and South Western Victoria.

12 months after application Carbon Boost treated soil was more than twice as open as untreated soil. PSI measures soil compaction, higher numbers are more compacted. Plant roots struggle beyond 250 PSI.

SOIL WATER

Improved soil structure leads to better water management. Open soils allow water in faster when it rains, reducing runoff, and can store more water after the rain. This is of clear benefit in dry conditions, but also helps during high rainfall. A wide range of farmers have reported that they don't get bogged during wet years anymore.

Stock producers have reported that they have feed when others don't at the start and end of growing seasons, which has opened up opportunities to sell at better prices and fatten imported stock bought cheaply during dry periods.

An green oasis in a sea of brown. A customer's green property 22/01/2024.



Saturated soil during floods in 2022. 6 weeks after treatment with Carbon Boost the trial showed a much happier unsaturated soil with more air space but the same water content



ANIMAL PRODUCTION

Many of the best results from using Carbon Boost are in animal production. Feed quality increases in terms of energy value and micronutrient availability. These qualities lead to animals that grow faster, have less fat, and need fewer interventions for diseases. Some farmers have reported eliminating vaccinations and parasite treatments.

Mick Carey compared lambs in two 20 hectare pasture paddocks with and without Carbon Boost at 25L/ha. The lambs in the treated paddock grew 50% faster, 3kg/week vs 2kg/week. At the abattoir, they had a 15% higher meat yield than a conventional lamb of the same live weight (lower fat %). He then got a 20% bonus on \$/kg for bigger, marbled cuts that could sell to restaurants. Carbon Boost cost \$7/lamb.



SOIL ACIDITY

In some locations, Carbon Boost has been able to raise soil pH through the actions of soil biology and increased soil organic matter. Farmers have reported a 30 litre/ha application of Carbon Boost raising soil pH from 5.5 to 6.5 over 6 months with no lime or other inputs. In locations where pH hasn't been measured to change, the symptoms of acidity have consistently reduced.

TOPSOIL DEPTH

The topsoil is where the majority of activity happens in the soil. It is the area that holds the most nutrients and water, has the most roots, the most microbes, and the most carbon. We have seen topsoil develop from 4cm to 90cm in 2 years. This is a 22.5 times increase in topsoil volume.



CASE STUDY

MICK CAREY - COOLAMON NSW

Mick Carey runs 1200 ha of grazing land near Coolamon, NSW. He started a soil carbon credit project in 2022. Using a combination of permanent multispecies pastures, Carbon Boost, minimal fertilisers and reduced herbicides he has taken his topsoil depth from under 5cm, to over 90cm in 2024. Measurements taken in 2024 show that he has added 0.5% extra carbon to the soil to 90cm depth. This works out as 81,000 tonnes of extra carbon on his farm. This is equivalent to 297,000 tonnes of carbon dioxide removed from the atmosphere.

He has observed all of the benefits described in this brochure. As a result his soils, plants and animals are thriving. He is reporting a wide range of savings and revenue increases as a result. In economic terms the results speak for themselves:

FEED QUALITY

Use of Carbon Boost often builds dry matter. More importantly it increases feed quality. Brix is a rough measure for this, and we often see jumps in brix from 7 to 15 in comparison trials between 0 and 30L of Carbon Boost.

Savings in fertiliser, herbicide and vaccinations \$/year	+ \$520,000
Increased income from stock \$/year	+ \$1,000,000
Additional cost of Carbon Boost \$/year	- \$25,000
Net economic benefit (excluding carbon credits) \$/year	= \$1,495,000



Mick Carey standing in his pasture



"My lambs grew 50% faster in a Carbon Boost treated paddock."

"To me it's a no brainer"

Mick Carey - Coolamon



"It fills the gap where you've got your nutrition and ground cover right, but you just need a microbial boost to get things going"

Milton Curkpatrick
Precision Pastures

Carbon Boost is designed to stimulate soil microbes and plant roots. This can lead to positive changes in soil structure and soil health in as little as two weeks. These changes lead to increased soil carbon, which grows healthier plants that yield more with less.

Carbon Boost can be applied through boom spray, plane, drip irrigation, spray irrigation or direct injection. It is screened to 130 microns and has had zero blockages in all tested systems.

Suggested application rates:

	Minimum rate	Maximum rate	Recommended rate
Pasture	15	50	30
Cereals	15	50	30
Citrus	15	80	50
Tree nuts	15	80	50
Grapes	15	80	50
Rice	15	50	30
Cotton	15	80	40
Turf	15	100	60
Vegetables	15	80	50

All rates are in litres per hectare

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