

LOOKING INTO THE BENEFITS OF COMPOST ON VEGETABLE FARMS IN THE NT

The NT naturally has low organic matter in its soils. Organic matter is important for soil health and applying compost is a great way to increase organic matter.

During the 2023 season the VegNET project worked with a number of growers that applied compost to their soil to improve their soil health, in the hope to increase their yields, and decrease disease in their crops.

Soil tests were taken on 3 NT vegetable farms prior to and months after applying compost to test any improvements to the soil as well as seek feedback on the growers on any visual improvements.

Soil Test Results

The soil tests from 2 out of the 3 farms showed that applying compost to soil improved their Cation Exchange Capacity (CEC) and organic matter considerably.

What is CEC?

The CEC of soil explains the soils' ability to hold essential nutrients. The higher the CEC, the greater the soil's ability to hold onto essential nutrients and provide a buffer against soil acidification.



CEC Results

FARM	Un-composted CEC (cmol(+)/kg)	Composted CEC (cmol(+)/kg)
Farm 1	2.2	3.3
Farm 2	4.0	6.4
Farm 3	No change	No change

What is Organic Matter?

Organic matter results from partly decayed plants and animal residues. Organic matter assists in maintaining soil structure, the supply and retention of nutrients, soil life and water retention. Essentially, organic matter can greatly improve the health of soil and therefore have an impact on the plants grown from that soil.

Organic Matter soil results

FARM	Un-composted Organic Matter % (total carbon *1.75)	Composted Organic Matter % (total carbon *1.75)
Farm 1	0.9	1.7
Farm 2	2.3	4.4
Farm 3	No change	No change

Grower Observations

The owner and manager of Farm 1 saw the okra paddock he applied compost too is less stressed and appears to be up-taking fertiliser better than the paddock he did not apply compost too. This grower also takes into account other soil management techniques he applied to the paddock alongside his compost through consultation with an agronomist.

The owner and manager of Farm 2 found a considerable improvement in his crop since applying compost. He has found he has a longer harvesting window with a stronger and healthier crop. He also found he used slightly less fertiliser than the paddock without compost.

Farm 3, although seeing no change in their soil results, has seen an improvement in their crop. They feel investing in their soil is important and will look into topping up compost every 2 years.

Vegetable grower Chris Pham in front of his Okra block that had compost applied to it



Final word

The trial results show that applying compost has potential to improve soil health in the Northern Territory, both in terms of increasing CEC and organic matter.

Judging the 'worth' of applying compost in just a few months and seeing production benefits may leave some growers questioning if the practice of applying compost is economical. Only the grower can make that decision.

However, they should consider that building soil health takes time, and the best results will be seen from long-term changes such as applying compost over several years.