



COMPOST IN BROADACRE FARMING

*Premium Compost
right here in the
Goulburn Valley*

Get the Back 2 Earth Edge

*Incorporate into the soil
or as a mulch*

ARE YOU LOOKING TO

- Reduce input costs (fertiliser, herbicides, pesticides and water)
- Increase nutrient availability and soil fertility
- Kickstart your crops
- Improve soil structure, soil organic matter and carbon levels
- Conserve moisture and improve water infiltration
- Increase plant health and long-term sustainability

COMPOST IN BROADACRE

While broadacre cropping programs can rob Australian soils of carbon and organic matter, improving soil function and structure is possible, and it starts with compost.

According to The Regional Institute,¹ compost can hold 10 times its weight in water, on the driest continent in the world, this is one big benefit to using compost in broadacre cropping.

Research compiled by Compost for Soils,² reports that compost acts as a soil conditioner and works by improving the soil's physical, biological and chemical properties.

Tips for using compost in broadacre cropping
- Trial over a 3 to 5 year period, begin by targeting poor-performing areas, consider other farming programs which can be tweaked to assist with changes to soil properties.



Physical Improvements

- Compost adds both organic matter and carbon, as organic matter contains carbon
- Carbon is fundamental to soil quality and fertility
- Organic matter is the glue that holds soil particles together forming aggregates
- Aggregates are critical to soil structure, the porosity of both air and water, along with moisture and nutrient-holding capacity
- Incorporating composting in cropping systems helps replenish the carbon removed, maximising production

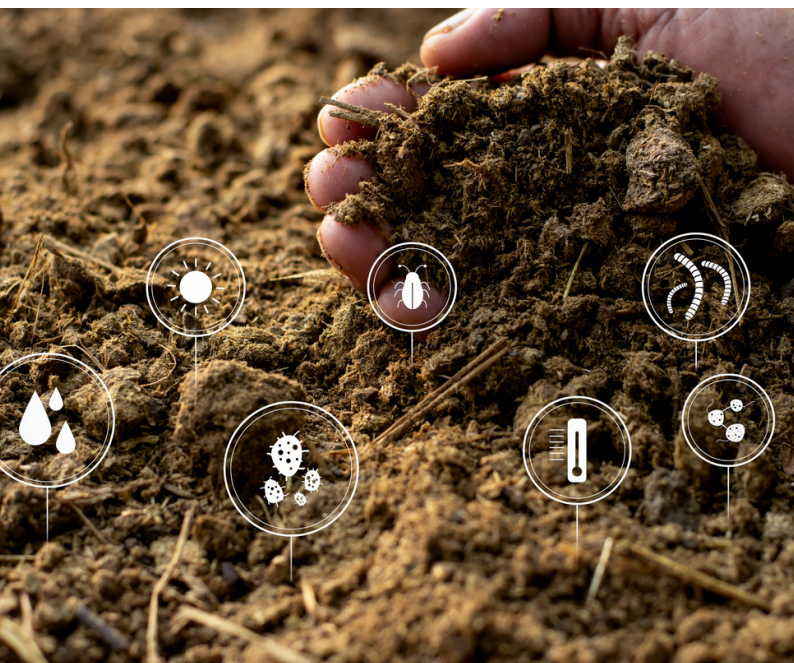


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Chemical Improvements

- Plants need a constant supply of nutrients for healthy growth
- Cropping systems remove these nutrients
- Compost provides a slow release of nutrients and helps make nutrients plant available, through biological activity
- Compost improves soil Cation Exchange Capacity - CEC, which helps the soil hold onto nutrients and makes them available to plants
- Soils with a low CEC lose nutrients easily through leaching.



Quality compost contains microbes such as bacteria, fungi and protozoa, along with microorganisms such as mites, centipedes and worms. Compost helps regulate soil temperature, increases water infiltration and helps soil retain moisture.

Biological Improvements

- Compost improves microbial diversity by adding microbes and providing them with a food source (organic matter)
- Organic matter is key to unlocking, releasing and cycling nutrients
- Microbes are essential for converting nutrients to plant-available forms
- Decomposing organic matter forms humus, increasing nutrient breakdown and availability to plants
- Good quality compost contains humic and fulvic acids, both have important roles in soil health and fertility
- The diversity of bacteria and fungi found in compost helps fight disease-causing organisms, improving plant immunity and suppressing plant disease



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Where	Situation	Rate	Results	Other observations	Reference
Western Australia	Wheat, Barley, Lupins, Canola and Oats	20 t/ha	↑ yield of 20%	Improvements to – Soil moisture, plant dry weight, number of tillers, pH, Soil nutrient and water holding capacity	3
		10 t/ha	↑ yield of 13%		
Victoria	Raised Beds with drainage problems	0 – 90 dry t/ha, incorporated into reformed beds to depth of 20cm	Significant ↑ in soil moisture with higher compost rate	↓ Soil bulk density ↑ Soil porosity ↑ Significantly organic matter and Potassium levels	4
NSW	Overgrazed feedlot	60:40 Mulch : fine compost Drilled with oats	Exceptional germination	↑ Plant dry weight ↑ Plant available moisture, flowering and seeding	5
Ireland	Broadacre cropping	22 t/ha + 100kg/ha inorganic N (reduced rate)	Comparable to standard UK fertiliser program	↓ fertiliser costs without loss in yield. Ability to maintain or enhance soil organic matter.	6

The Role of Biology

When plants are photosynthesising they leak exudates (carbohydrates) into the soil, these exudates feed the life in the soil (bacteria and fungi etc) and in exchange for these exudates the soil microbes gather nutrients for the plant. Biologically diverse soils create a healthy environment, producing healthier plants better able to cope with the pressures from frost, heat, pests and diseases. Compost not only provides a source of microbes, but it also feeds your underground workforce, building soil organic matter, therefore soil carbon, and ultimately improving water retention to create more resilient soils for long-term soil and plant health.

Why Back 2 Earth Composting

Back 2 Earth Composting is located in Kotupna in northern Victoria. Our family business produces premium horticulture / agricultural grade composts on our organic farm.

Our thorough composting procedure and monitoring ensure the minimal likelihood of weeds and contamination, delivering a consistent quality compost to improve the health of your most important asset – your soil.

We are passionate about soil health and agriculture, recycling organic materials and green waste to build sustainable food production systems and viable family farms.

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Sample Analysis

Sample analysis with EAL (Environmental Analysis Laboratory)

Back 2 Earth Compost;

- Meets the Australian AS4454 standards for compost
- Compost is safely below the contaminants guidelines and is safe to use on farm
- Contains good organic matter and humus levels, which will help stabilise soils, stimulate biology and improve water-holding capacity
- Contains a full spectrum of macro and micro nutrients to promote plant growth
- Average Nitrogen content **1.29%** - well above the AS4454 guideline of 0.8%
- Average Estimated Organic Matter content - **27.8%**

CONTACT US

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 www.back2earthcomposting.com.au

PRODUCTS

Premium Horticulture Grade Compost

\$44 / m³ (inc GST)

Fungi Power Compost

(25% compost 75% wood)

\$15 / m³ (inc GST)



References

1. The Regional Institute - A long-term study into compost applications for broadacre cropping
<http://www.regional.org.au/au/asa/2003/c/13/stokes.htm>
2. Compost for Broadacre, Compost for Soils 2010
www.compostforsoils.com.au.
3. David, S. and King, C. (2005) Affect of improving soil organic matter with compost on broad-acre crop production, Organic Farming.
4. Stokes, J., Cody, J., Maheswaran, J. B.E., Unkovich, M., O'Leary, G. (2003). A long-term study into compost applications for broadacre cropping. Solutions for a better environment: Proceedings of the 11th Australian Agronomy Conference, Geelong, Victoria, Australia, 2-6 February 2003.
5. Southern Rivers Catchment Management Authority (unknown). Case Study: Drought Feedlot Rehabilitation Trial.
6. WRAP (2009) Using quality compost to benefit cereal crops, www.wrap.org.uk/composting.