CASE STUDY

FOGO compost trial improves wheat yield by up to 45%



FARM LOCATION WSU Hawkesbury Riverfarm, NSW

TRIAL PERIOD 2024 growing season

The trial

At WSU Hawkesbury Riverfarm in NSW, a wheat field trial was conducted to evaluate how Food Organics and Garden Organics (FOGO) compost could improve crop productivity and soil health under rainfed conditions.

The trial compared two compost application rates, 10 t/ha and 20 t/ha, against an untreated control. Certified FOGO compost supplied by Cleanaway was applied before sowing and assessed for its impact on crop growth, grain yield, soil condition, nutrient availability, biological activity and environmental safety.

The trial was conducted using a replicated randomised complete block design, with soil and plant samples independently analysed throughout the season.

Treatments

- T1: Control – 0t per hectare
- T2: Low compost - 10t per hectare
- T3: High compost – 20t per hectare

Results

Overall, the trial found that FOGO compost delivered significant improvements in wheat productivity, soil health and nutrient availability.

Wheat yield (Figure 1) increased by 32% at 10 t/ha and 45% at 20 t/ha compared with the untreated control.

Yield improvements were supported by:

- ✓ Increased plant vigour
- ✓ Greater biomass
- ✓ More spikes and tillers per square metre
- ✓ Higher thousand grain weight

Compost also improved soil condition by reducing compaction, increasing water holding capacity (Figure 2) and improving soil structure in the topsoil. These benefits can help support root growth, moisture retention and crop resilience under rainfed conditions.

Soil nutrient availability increased across key nutrients, including nitrogen, phosphorus and potassium, while micronutrients such as iron, zinc, manganese, boron and silicon also increased. Compost-treated soils also showed higher biological activity, supporting nutrient cycling and long-term soil fertility.

Importantly, all soil and plant concentrations remained well below regulatory and guideline limits, confirming the compost was safe for agricultural use.

About Cleanaway compost

Cleanaway compost is manufactured in Cleanaway's Eastern Creek Organics facility.

Made from food organics and garden organics (FOGO), which includes food scraps and garden clippings from local households, this product recycles valuable nutrients, reduces greenhouse gas emissions and contributes to the circular economy by reducing waste and promoting sustainable practices.

Cleanaway is excited to be recovering and returning these valuable nutrients back to farmland, helping to enrich soils, support healthier ecosystems and a make a sustainable future possible.

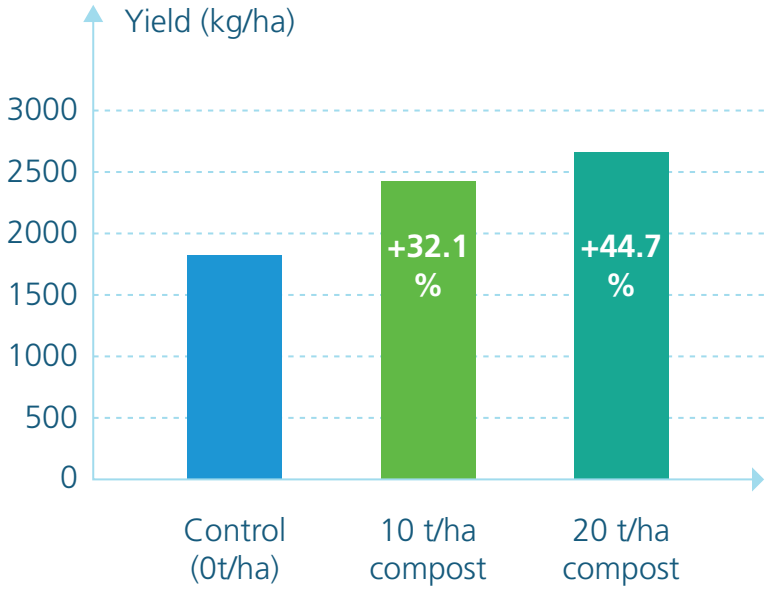

Figure 1: Wheat yield
FOGO compost significantly increased wheat yield, delivering yield increases of 32.1% at 10 t/ha and 44.7% at 20 t/ha compared with the untreated control.

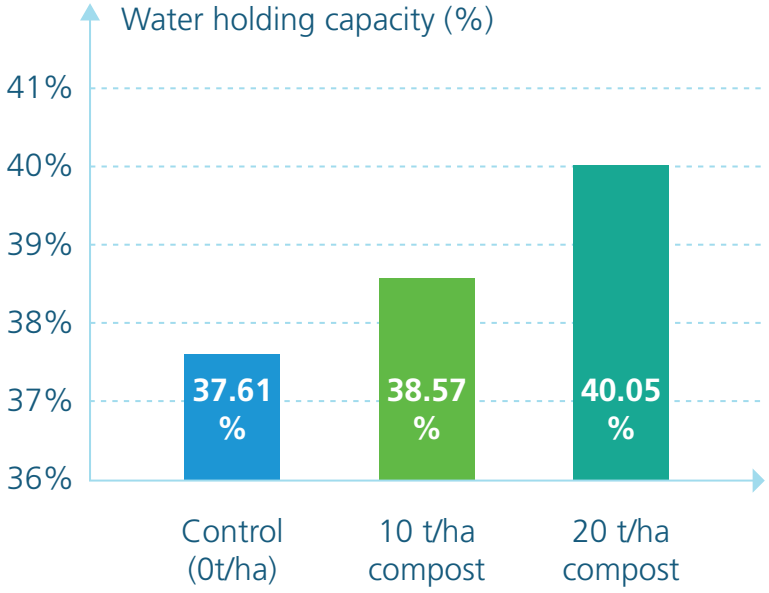

Figure 2: Soil water holding capacity
FOGO compost improved soil water holding capacity, with the greatest increase observed at the 20 t/ha application rate.

Disclosure
The trial was designed and supervised by Western Sydney University. Spreading and management were undertaken by Western Sydney University staff. The trial was funded jointly by Cleanaway and Western Sydney University to support trial design, monitoring, sampling and laboratory analysis.

Order our Cleanaway Organics Compost today and let the results speak for themselves.
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