

Compost and Soil Water

Can compost be beneficial?

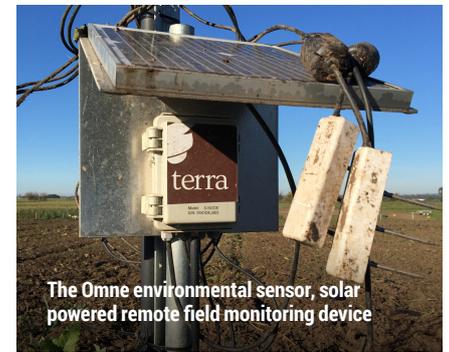
With the powerful combination of nutrients and organic matter, composts have many benefits and diverse applications in agricultural systems. By increasing soil organic matter, composts can increase the water-holding capacity of soils, stabilise pH and increase biological activity – all of which ensures better production.

Compost, drought, and soil moisture

Managing soil water under the increasingly variable and extreme climatic conditions is something most farmers are thinking about. Using composts may help alleviate some of this uncertainty.

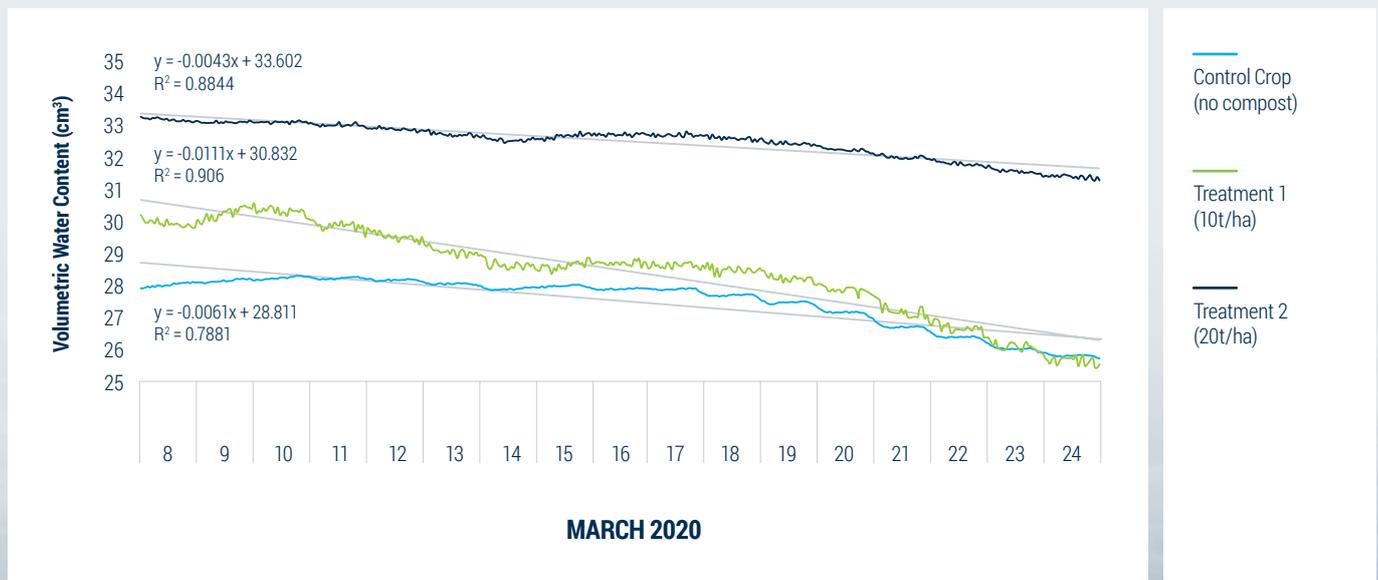
Using innovative technology

The Agnov8 Omne environmental sensors are autonomous wireless soil monitoring units powered by solar panels. With a range of up to 3 kilometres, the technology works well on broad acre properties. The sensors measure key soil conditions such as Volumetric Water Content (VWC), Electrical Conductivity (EC) and temperature.



Daily average Volumetric Water Content (VWC) at 100mm soil depth

A comparison of compost treatments in the top 100mm of the soil profile, showing the improved water holding capacity of soils with higher rates of compost. Soil treated with 20t/ha holds significantly more water than control.



The impacts of composts on soil water retention

A trial to show the impact of composts on soil water retention at the Greater Sydney Local Land Services demonstration site River Farm (in the Richmond Lowlands) found strong positive impacts.

The trial examined water retention of the soil with the application of 20 tonnes of compost per hectare, 10 tonnes and a control.

These impacts included:

- Compost application at 20t/ha increased VWC and **slowed down** rate of water loss;
- Compost can improve crop yield – Midnight Eggplant variety yielded a **60% gain** in average fruit weight; and
- Plants in composted soils **responded better** under extreme heat and other environmental conditions.



Below: Contrasting reactions to extreme heat and UV radiation. The image on the left (20t/ha) shows an eggplant crop that is holding turgidity, while the image on the right (Control Crop) shows an eggplant crop that is wilting significantly. Both photographs were taken on the same day.



WEBINAR

Compost and Soil Water

Want to learn more about how compost can help on your farm?

MRA Consulting Group held a live, online webinar which is now available on YouTube!

The webinar covers topics including:

- **Plant available water** and **volumetric water content**;
- **Innovative** and affordable **monitoring technology**; and
- The effect that compost has on **soil water holding capacity**.

You can find the webinar [here](#).

To learn more, please email info@mraconsulting.com.au or visit mraconsulting.com.au

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