Using compost to improve canola productivity

Location: 30km east of Hamilton, Victoria

Objectives:

- Assess the impact compost has on the growth and productivity of canola.
- Assess the ameliorating properties of different rates of compost in a soil typical of south-western Victoria.

Background:

In a combined effort, Elders Hamilton and Van Schaik's Bio Gro have initiated a trial in south-western Victoria to study the impact compost has on canola growth and production.

This trial was spread on May 20th 2025, with the compost incorporated by sowing, and rains following in the days after. These conditions, although late, provide the ideal start to the trial, and results will accurately depict how the compost should be utilised.

Crop Type: Canola

Start date: 20/05/2025

End date: 31/12/2025

Treatments:

- Control – No compost applied
- AgriGro – Spread at 3t/ha
- AgriGro – Spread at 5t/ha
- AgriGro – Spread at 10t/ha

AgriGro is a high-quality base compost designed for agricultural use.

Trial Measurements:

- Biomass and phenology – Monitored 4 times during the growing season.
- Grain yield – Measured at harvest

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May 20

- Compost was spread on the 2ha plots at 3t/ha, 5t/ha and 10t/ha.
- Paddock had been cultivated but not yet sown. This allows for incorporation by sowing.

May 22

- Paddock sown to canola. Sowing was followed by rains in the next two days.

June 13

- Visual inspection of paddock without data collection.
- Germination appears even across the paddock.
- When removed, seedlings in the compost treatments retained more soil around their roots.

Control **3t/ha** **5t/ha** **10t/ha**

Picture taken June 13.

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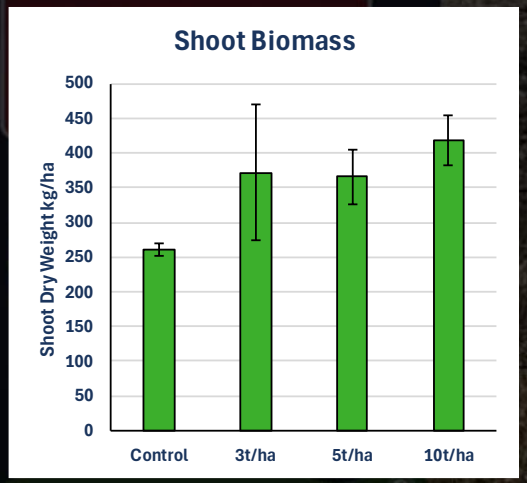
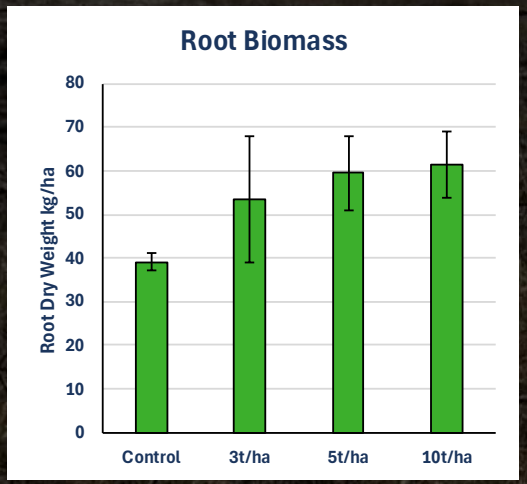
July 30

- Canola at forth leaf.
- Three samples were collected from each plot to determine shoot and root dry weights.

Control **3t/ha** **5t/ha** **10t/ha**

Picture taken July 30.





- The plants in the image (left) were all selected based on a similar growth stage. This allows roots to be compared.
- Compost shown to have a positive impact on both shoot and root biomass.
- Due to the season being optimal, the impact of increased root growth may not fully be expressed. A season that finishes early may better show the benefits on increased root growth.

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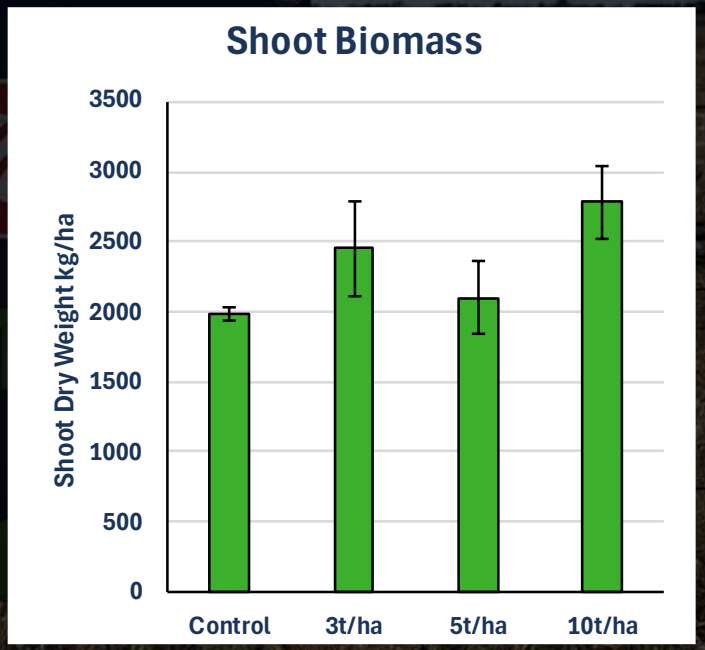
August 29

- Stem elongation has commenced. Compost treatments appear more advanced than the control.
- Three samples were collected from each plot to determine shoot dry weights.

Control **3t/ha** **5t/ha** **10t/ha**

Picture taken August 29.



- Compost appears to have a positive impact on shoot biomass.
- The 5t/ha treatment appears to have lesser effect on shoot biomass. There was one usually small sample that brought the average biomass down. A larger sample size could result in

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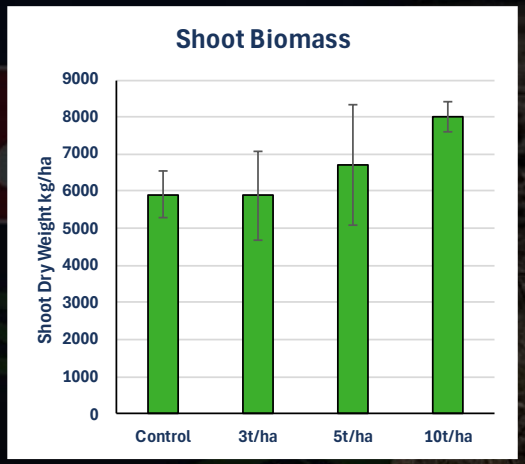
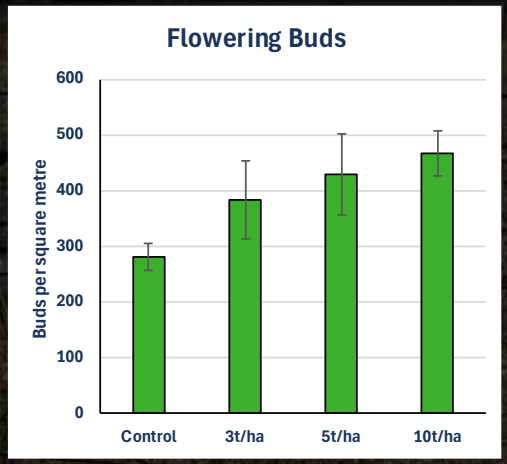
September 24

- Canola plants at approximately 30% flower.
- Three samples were collected from each plot to determine shoot dry weights and bud counts. Buds are groups of flowers rather than individual flowers.

Control **3t/ha** **5t/ha** **10t/ha**

Picture taken September 24.





- Variation between plots is much less visible in the field. However, data still shows differences.
- Compost shown to have a positive impact on both shoot biomass and bud count.
- The 3t/ha treatment is of particular interest, showing minimal change in biomass but a definite change in bud count when compared to the control. An agronomically important trait.

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November 18

- These yield estimates may not accurately predict actual yields.
- Pods have filled, leaves have dropped and plants are still green. Paddock has not been windrowed.
- Four samples were collected from each plot to determine yield estimates.
- Yields have been calculated assuming all plots have a seed weight of 4g/1000sees and 15% yield loss.
- The 5t/ha is unexpectedly low for unknown reasons.
- The control treatment had one unusually high sample which may have impacted the average yield.