

CISBAY GAUNTS FARM – TASMANIA - FIELD TRIAL

Date: March 2021
Crop: Canola
Trial Area Configuration See Appendix
Product: AGN XM
Application Rate: 0.5kg AGN XM diluted in 200L of water. Distributed evenly per 1 hectare then watered immediately. 1.0kg /Ha was re-applied after 30 days.

Canola Paddock



**Irrigated and sprayed with AGN
16/1/21.**

Seeder Planting Canola Seed.



A few days later



4 Weeks Later

From each of the four areas, ten plants were each removed from the ground, 10 meters apart from each other.

The ten plants were measured in length and the total weight recorded.

The corresponding differences in average weight using the Fertilizer as control (100%) is depicted in Gaunts – Cisbay Canola Crop Trial record appended to this report. This record also depicts graphically the minimum and max lengths of the plants from each field.

A summary of the findings is tabulated below.

Length Range & Total Weight (sample of 10)			
	Applied	Length (mm)	Weight (10 plants)
Area 1	Fertilizer 1	40 to 215	23 g
Area 2	AGN XM only	115 to 220	38 g
Area 3	AGN XM + Fertilizer	145 to 245	48 g
Area 4	Fertilizer 2	85 to 243	30 g



Fertilizer 1



AGN XM Only



AGN XM + Fertilizer



Fertilizer 2



Interim 4 Week Results

If we average the increase in yield by comparing the average weight from Area #1 and Area #4 (fertilizer alone) against Area #3 (fertilizer plus AGN XM), the 4 week interim result indicates the application of AGN XM has resulted in an increase in yield of 81%.

From a cost perspective, the cost of AGN applied per hectare is \$240 (1.5 kg/Ha). However, a productivity increase at \$240/Ha for a 81% increase in growth is substantial.

8 Weeks After Seed Planting

From each of the four areas, ten plants were each removed from the ground, 10 meters apart from each other.

The ten plants were measured in length and the total weight recorded.

The corresponding differences in average weight using the Fertilizer as control (100%) is depicted in Gaunts – Cisbay Canola Crop Trial record appended to this report. This record also depicts graphically the minimum and max length range of the sample of the plants from each field.

A summary of the findings is tabulated below.

Length Range & Total Weight (sample of 10)

Area #	Applied	Length (mm)	Weight (10 plants)
Area 1	Fertilizer 1	400 to 602	355 g
Area 2	AGN XM only	510 to 730	990 g
Area 3	AGN XM + Fertilizer	662 to 760	1,270 g
Area 4	Fertilizer 2	360 to 600	510 g

Interim 8 Week Results

If we average the increase in yield by comparing the average weight from Area #1 and Area #4 against Area #3, the 8-week interim result indicates the application of AGN XM has resulted in an increase in yield of 194%.

Refer to photos A-E below. Photo A shows the AGN XM treated canola after 8 weeks. The roots of the plants from soil treated with AGN XM are larger and more numerous (photo D and E-RIGHT) below) compared to plants grown in soil treated with Fertilizer only (Photo B and E LEFT) and AGN XM only (Photo C and E-MIDDLE), therefore allowing greater uptake of soil nutrients.

After 8 weeks from seed planting, the increase in yield is significant.

A. Canola Forage Where AGN XM Was Applied



B. Fertilizer Only



C. AGN XM Only



D. AGN XM + Fertilizer



E. Root Structure Comparison

- LEFT: Fertilizer Only. This root structure has visually less rhizomes than the plants grown in soil treated with either AGN XM Only or with AGN XM + Fertilizer.
- MIDDLE: AGN XM Only.
- RIGHT: AGN XM + Fertilizer. This root structure has visually thicker and more numerous lateral roots.



14 Weeks After Seed Planting

From each of the four areas, ten plants were each removed from the ground, 10 meters apart from each other.

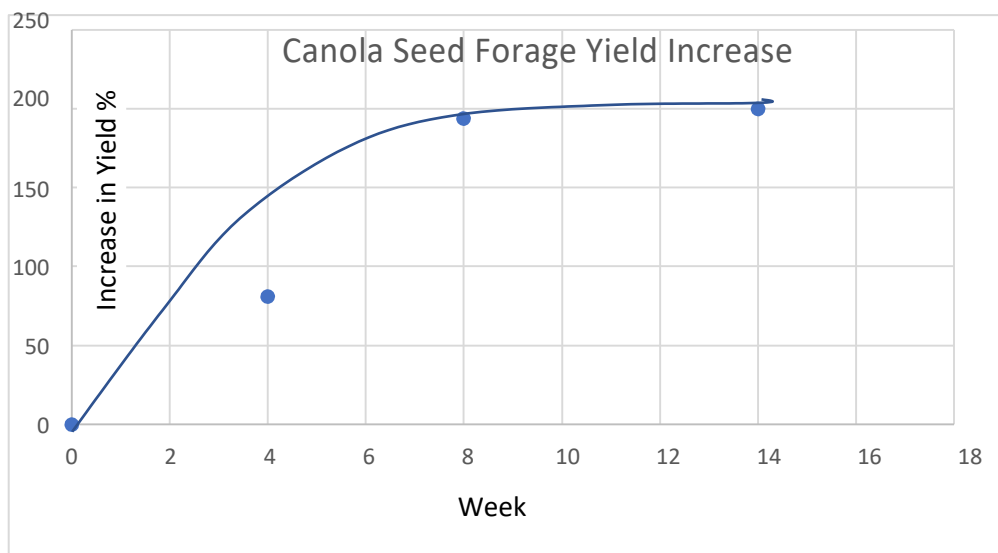
The ten plants were measured in length and the total weight recorded.

Length Range & Total Weight (sample of 10)

	Applied	Length (mm)	Weight (10 plants)
Area 1	Fertilizer 1	830 to 1090	900 g
Area 2	AGN XM only	830 to 1130	1,900 g
Area 3	AGN XM + Fertilizer	990 to 1150	2,200 g
Area 4	Fertilizer 2	700 to 860	1,300 g

If we average the increase in yield by comparing the average weight from Area #1 and Area #4 against Area #3, the 14 week final data set indicates the application of AGN XM has resulted in an increase in yield of 200%.

The plot below represents the increase in yield compared to the controls (fertilizer only) over the 14 weeks from seed plantation.



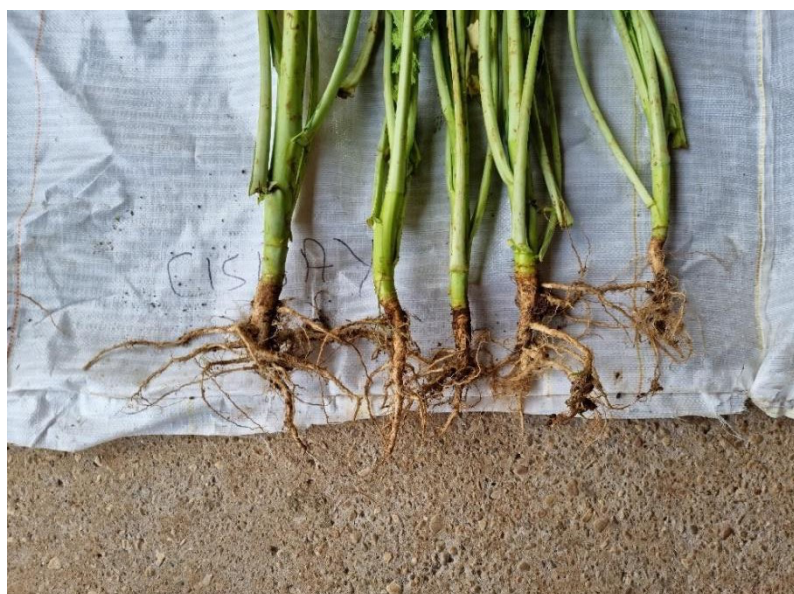
From each of the areas, five plants were taken, and each set examined and compared. In each set of five plants, the roots that had a diameter of greater than 3mm at their junction with the tap root were measured for length. The minimum and maximum length across all five plants were recorded. Across all five plants, the total number of roots greater than 3mm at their junction with their tap root was recorded.

Root Length Min-Max. Sample of 5.

(roots measured were at least 3mm diameter at the interface of the tap root)

	Applied	Root Length Min (mm)	Root Length Max (mm)	Total no. Roots >3mm
Area 1	Fertilizer 1	80	200	34
Area 2	AGN XM only	90	200	41
Area 3	AGN XM + Fertilizer	60	220	45
Area 4	Fertilizer 2	80	170	32

The lateral roots were more numerous on the plants from soil treated with AGN XM and what was most notable was the increased density of minor roots and hairs in the plants treated with AGN in addition to fertilizer.



It must be remembered the soil structure, soil composition including macro and micronutrients, pH, amount of irrigation and water in the soil, environmental factors, farming techniques and type of crop all play a part in achieving the yield and quality of produce observed. The preliminary results obtained in this Australian study so far appears to be notably on the higher end of the band of results achieved in overseas trials and commercial programs.

Fertilizer Only – 14 Weeks



AGN XM plus Fertilizer – 14 Weeks



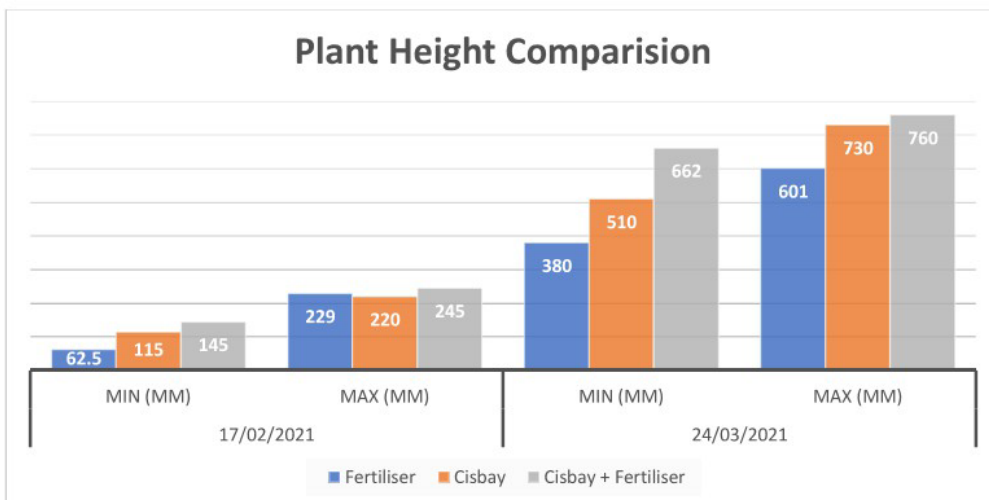
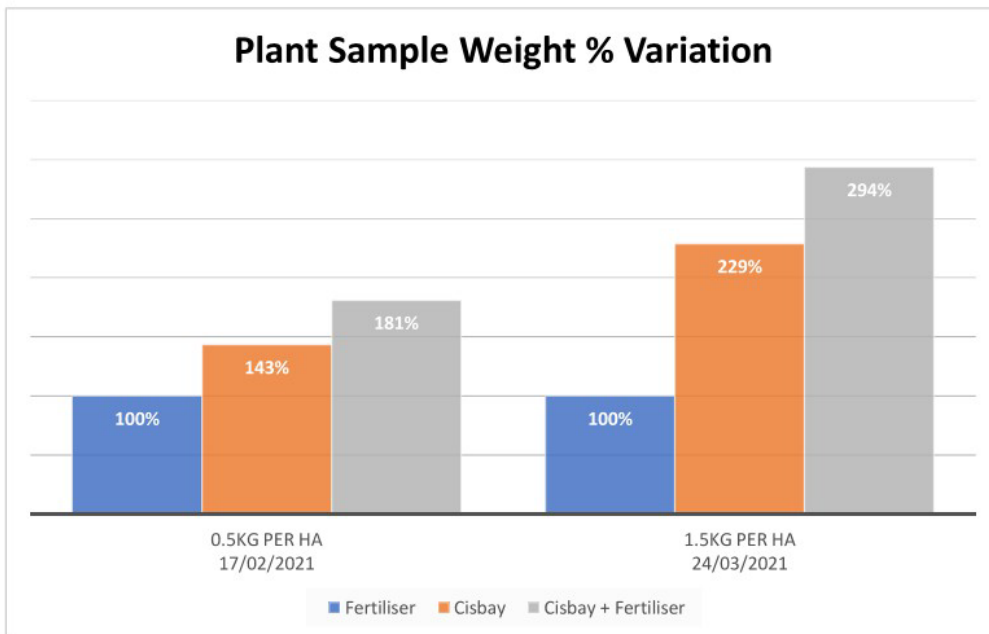
Appendices

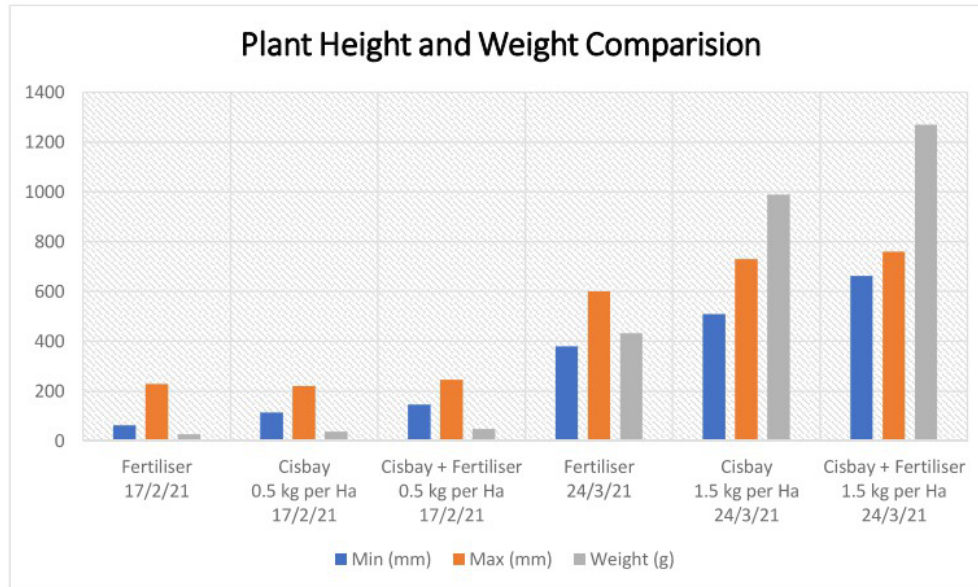
Area #1	2 Hectare	Fertilizer 1 Only: (11N:13P:19K:1S)
Area #2	2 Hectare	AGN XM Only
Area #3	300m ²	Fertilizer + AGN XM
Area #4	2 Hectare	Fertilizer 2 Only (11N:13P:19K:1S)



Gaunts – Cisbay Rape Fodder Crop Trial

1. Improved soil health
2. Reduces pathogens and leaching
3. 20% carbon capture
4. Better yield and improved productivity





Test Sample	Dose	Min (mm)	Max (mm)	Weight (g)	% Comparison
17 February 2021					
Fertiliser		62.5	229	26.5	100%
Cisbay	0.5 kg per Ha	115	220	38	143%
Cisbay + Fertiliser	0.5 kg per Ha	145	245	48	181%
24 March 2021					
Fertiliser		380	601	432.5	100%
Cisbay	1.5 kg per Ha	510	730	990	229%
Cisbay + Fertiliser	1.5 kg per Ha	662	760	1270	294%