CASE STUDY - Chamber Research (T011-humic acid)

Location	Brendale
Researcher	Gary Murdoch-Brown
Variety	Radish - "Cherry Belle" *Raphanus raphanistrum*
Row Size (m^2)	0.1 x 8
Planting	20/07/2018 20-22 seeds per row, seed tape
Application	29/07/2018
Harvest	17/08/2018
Irrigation	10ml/plant, 3-5 days
Chamber	
Lights	18 hours
Temperature	24°C day / 16°C night
Humidity	70%
Soil Type	sandy clay loam, leached
Fertiliser	in irrigation, prior to planting
Bang N (42 N)	12.5 ml/m^2
Bang P (13 N, 19 P)	6 ml/m^2
Advanced Trace (8 N, 3 S, Fe 4, Zn 2, Mn 2, Cu 1, 0.5 B, 0.1 Mo)	6 ml/m^2

Treatments (=10L/ha)

EnhanceMax (T1)	1 ml/m^2	first irrigation post germination
Humic Acid (T2)	1 ml/m^2	first irrigation post germination
Control (T8)	0 ml/m^2	first irrigation post germination

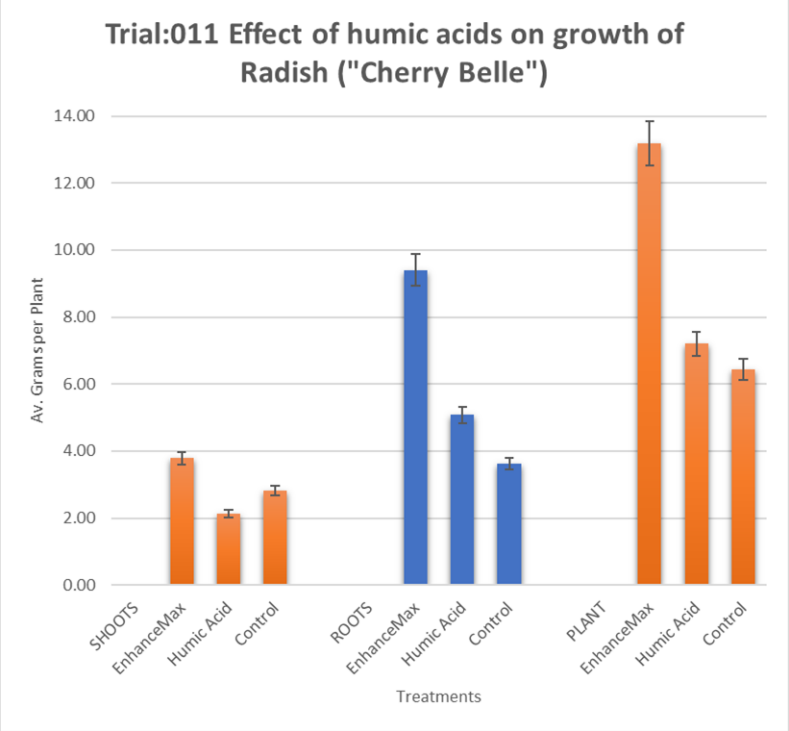
Germination	**Treatment(s) did not affect germination as application was one week after germination**	
EnhanceMax (T1)	15	plants
Humic Acid (T2)	21	plants
Control (T8)	19	plants

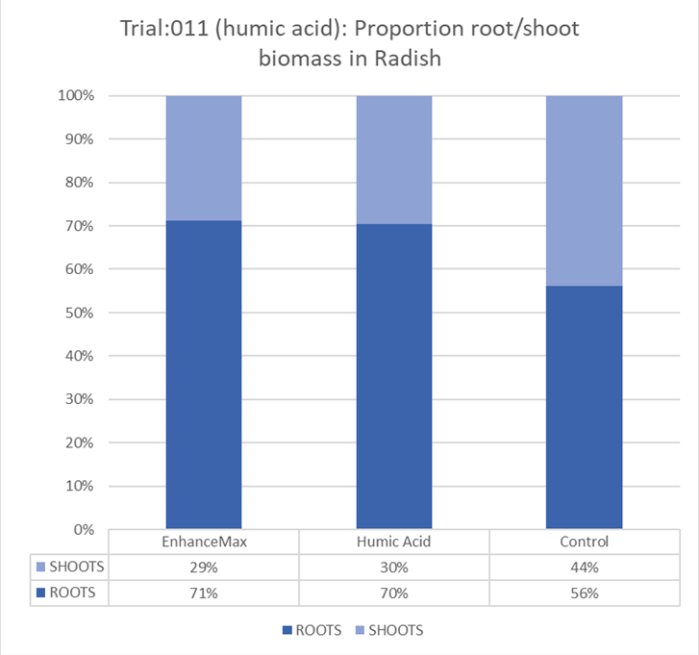
Yield (av.g/plant)	EnhanceMax	Humic Acid	Control	**EnhanceMax Change%**	**Humic Acid Change%**	
Radish Root	9.40	5.08	3.62	**160%**	**40%**	**increase**
Root/Shoot Ratio	2.48	2.39	1.28	**93%**	**86%**	**increase**

Notes:

Across the trial data is skewed by poor seed spacing in the seed tape. This caused undue competition amongst some plants leading to a wide variance in the data of all treatments.

Both humic acid treatments produced a high root/shoot ratio resulting in significant increases in root mass (yield) over the Control. EnhanceMax significantly increased yield over Humic Acid with a similar root/shoot ratio. This may validate that humic acid acts in a manner to prefentially increase root mass. EnhanceMax builds on the effects of humic acids through its techncial refinement, added biostimulants and self organising structure that increase yield via elicitation of a hormone response in the plant, improved nutrient uptake through organic complexing of rhizosphere nutrients, greater water distribution and availability, improved beneficial microbe activity, or combinations of the above. Further studies are required to confirm current study efficiacy across plant types, soil types and management practices and to clarify efficacy mechanisms and risks further.






3. CONTROL