

Trial Name:	Pak Choi – Ferocious Trial
Start Date:	27/12/2017
Location:	Greenhouse + grow room, HydroGarden Ltd. (52° 23' 40" N 1° 26' 14" W)

Instructions/Information
<p>To compare the performance of pak choi plants watered with nutrient solution either with or without addition of Ferocious.</p> <p>Substrates: ROOT!T sponges, VitaLink 100% Coir, VitaLink Clay Pebbles Nutrients: VitaLink PlantStart, VitaLink Coir Classic Grow SW, Jungle Control Ferocious</p> <p>Pak choi (<i>Brassica rapa sub. pekinensis</i>) F1 Glacier seeds from Moles Seeds</p>

Date	Procedure
27/12/2017	ROOT!T sponges soaked in 4 ml/L PlantStart solution and placed in the LightHouse Clone tent with LUMii EnviroGro CFL Propagation light with 18/6 photoperiod.
02/01/2018	Plants transplanted to 0.7 L pots with clay pebbles and coir substrate. Placed in the greenhouse with natural light and additional CFL light with 12/12 photoperiod. 10 plants in each group watered with 5 ml/L Coir Classic Grow SW (EC 1.3, pH 5.9) with (Ferocious group) or without (Control group) addition of Ferocious after mixing the solution and adjusting its pH.
05/01/2018	Watered with 5 ml/L Coir Classic Grow SW (EC 1.3, pH 6.0) with (Ferocious group) or without (Control group) addition of Ferocious.
08/01/2018	Watered with 7 ml/L Coir Classic Grow SW (EC 1.7, pH 6.0) with (Ferocious group) or without (Control group) addition of Ferocious.
10/01/2018	No watering as substrate is still too wet.
12/01/2018	No watering as substrate is still too wet.
15/01/2018	Watered with 7 ml/L Coir Classic Grow SW, pH adjusted to 5.9, with (Ferocious group) or without (Control group) addition of Ferocious.
17/01/2018	No watering as substrate is still too wet.
18/01/2018	Plants sprayed with 1 ml/L DOFF.
19/01/2018	Watered with 7 ml/L Coir Classic Grow SW, pH adjusted to 5.9, with (Ferocious group) or without (Control group) addition of Ferocious.
22/01/2018	No watering as substrate is still too wet.
23/01/2018	Plants with trays moved to 2.4 x 1.2 m LightHouse MAX tent in grow room with 2x 600 W HPS (under one of these lights) as there was not enough of light for plants to grow quickly in greenhouse (despite the additional CFL lights).
24/01/2018	No watering as substrate is still too wet.
26/01/2018	Plants watered with 7 ml/L Coir Classic Grow either with or without addition of Ferocious.
29/01/2018	Plants watered with 7 ml/L Coir Classic Grow either with or without addition of Ferocious.
31/01/2018	Plants watered with 8 ml/L Coir Classic Grow either with or without addition of Ferocious.
02/02/2018	Plants watered with 8 ml/L Coir Classic Grow either with or without addition of Ferocious three times a week from now on.

	Plants in Ferocious group are drying out faster, therefore they are watered with more nutrient solution. It is expected they'll grow faster.
05/02/2018	Sprayed with 20 ml/L Pest OFF (Guard'n'Aid) due to a strong aphids infestation.
08/02/2018	Sprayed with 15 ml/L Pest OFF (Guard'n'Aid).
15/02/2018	The end of the trial. Plants harvested and weight.

Results

In all the pictures in this section there are five plants in each tray. Trays belong to groups as shown in the scheme on the right, their position stayed the same during the whole trial:

FEROCIOUS	CONTROL
CONTROL	FEROCIOUS



Picture taken 10/01/2018.
Plants in the greenhouse.



Picture taken 15/01/2018.
Plants in the greenhouse.
CFL supplementary light shown.



Picture taken 19/01/2018.
Plants in the greenhouse.



Picture taken 25/01/2018.
Plants in the grow tent.



Picture taken 02/02/2018.
Plants in the grow tent.



Picture taken 09/02/2018.
Plants in the grow tent.



Picture taken 15/02/2018.
Plants in the grow tent.

Table showing fresh mass weight of individual plants and average weight of plant for each group:

Group	Fresh mass weight of individual plants [g]					Average weight of plant [g]
Ferocious	61.64	34.66	43.60	60.53	68.68	46.87
	47.11	41.43	28.05	41.01	41.98	
Control	36.36	53.18	56.40	31.59	16.44	35.50
	42.69	31.16	16.99	39.31	30.92	

Discussion

In this trial, the performance of pak choi plants watered with nutrient solution either with or without addition of Ferocious was observed.

Pak choi plants in this trial were propagated in propagation tent under propagation light with 18/6 photoperiod. After, ten plants of similar size and developmental stage were chosen for each group, Ferocious and Control. Plants were transplanted into small pots with clay pebbles drainage layer and filled with coir. They were placed in a greenhouse with natural light and supplemental CFL light (as shown in the picture in Results section) with 12/12 photoperiod. After being transplanted plants started to be watered with Coir Classic Grow nutrient solution with or without addition of Ferocious. Plants were not growing fast enough, so after three weeks they were re-located to grow tent with HPS light.

At the end of the trial, plants were cut closely to a substrate level, cleaned, and weight. Fresh mass weight of each individual plant can be seen in the table at the end of Results section of this report. In the Ferocious group it was between 28.05 grams and 68.68 gram, while in the Control group this was between 16.44 rams and 56.40 grams. Average weight of plant in each group was then calculated. It was 35.50 grams for Control group and 46.87 grams for Ferocious group (32% higher). In total, it was harvested 113.7 gram more pak choi plants in Ferocious group compared to Control group.

Pak choi plants watered with addition of Ferocious performed in this trial better than control plants. As Ferocious should be the most effective when growing plants in coir, this result was expected. Average plant weigh and total yield was significantly higher for plants from Ferocious group compared to plants from Control group. At the moment, another trial with sunflowers grown hydroponically is being run to confirm the positive effect of Ferocious on plants.