22 June 2017

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OHD CROP TRIALS CONTINUE TO EXCEL

Key Highlights

- ✓ Bok choy responded well to the application of liquid at 5L/ha, with a 21% increase in fresh yield compared to the untreated control plants.
- ✓ Trials suggest the application of the OHD bio-stimulant may improve fertiliser efficiency.
- ✓ The yield uplift following the application of the OHD bio-stimulant is in addition to yield benefits provided by included fertilisers.
- ✓ Additional horticultural and crop cereal trials have commenced with results released to the market upon completion

Greenpower Energy Ltd (ASX: Greenpower, "GPP", "Company") is pleased to provide shareholders with the following overview regarding the successful hydroponic trials involving the OHD Bio-stimulant fertiliser.

Hydroponic Trial Results

Greenpower coal from the Gippsland Basin was subjected to the OHD process and the resulting bio-stimulant fertiliser liquid was applied to Bok Choy in hydroponic conditions. The impact on the yield of Bok Choy utilising the OHD Bio-stimulant was evident:

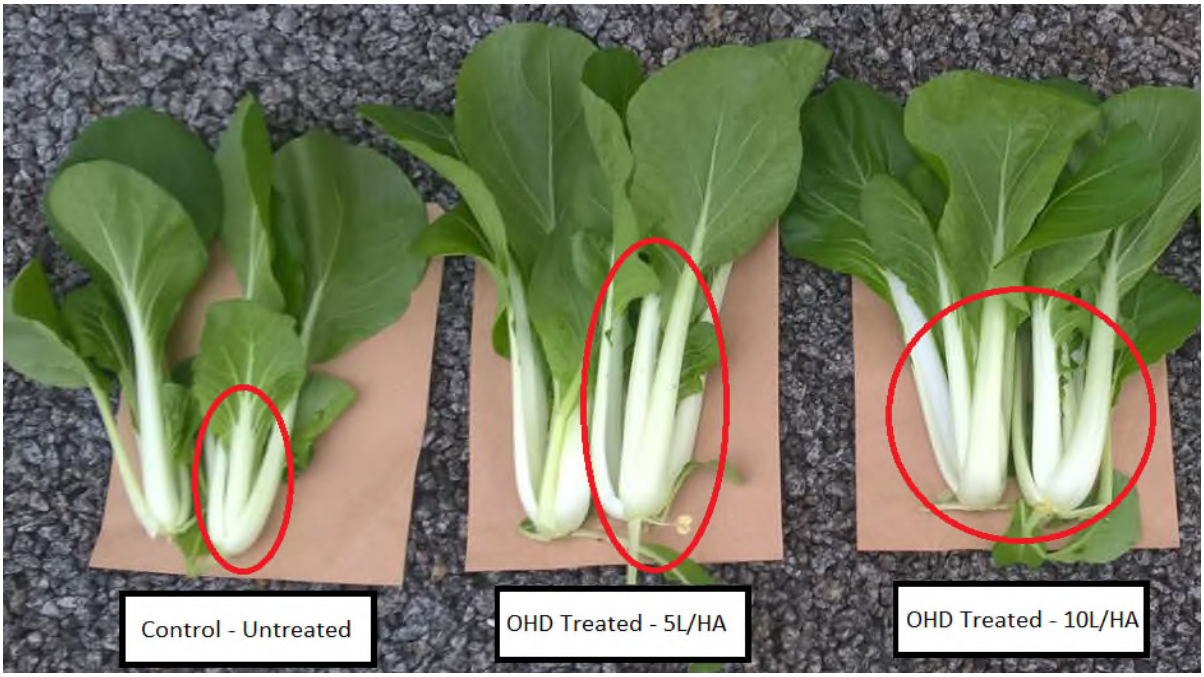

Figure 1. Bok choy following harvest. From left to right: untreated control, 5, and 10 L/ha treatments.

In the OHD hydroponic study, Monash applied the OHD liquid as a once-weekly foliar spray to bok choy at application rates of 5, 10 and 20 L/ha, alongside untreated control plants.

Bok choy responded best to the application of liquid at 5L/ha, with a 21% increase in fresh yield compared to the untreated control plants. The results of the study would suggest that a bok choy trial with the OHD liquid applied as a foliar spray in commercial hydroponic growing conditions is warranted.

Importantly the yield uplift following the application of the OHD bio-stimulant is in addition to that provided by added fertilisers. It appears the application of the OHD bio-stimulant may improve fertiliser efficiency as was also evident in the tomato and wheat trials where the control plants where stimulated with industry accepted rates of added fertiliser (including NPK). The hydroponic trials for bok choy were undertaken using the following nutrient additives which are common practice in the hydroponic growing industry. The nutrients were used for both the control plants and OHD test plants:

Nutrient	Concentration	Nutrient	Concentration (g/L)
Calcium nitrate	150 g/L	Solu K (potassium sulphate)	33
Potassium nitrate	45 g/L	MKP (mono potassium phosphate)	25
Fe chelate	0.91 g/L	Solu Mag (magnesium sulphate)	83
Thio cal	4 mL/L	Mn chelate (13% EDTA)	0.5
		Cu chelate (14% EDTA)	0.03
		Zn chelate (13% EDTA)	0.3
		Borax boron	0.2
		Sodium molybdite (25%)	0.01

Figure 2. Summary of the hydroponic nutrient solution used in the trial.

While there are many types of hydroponic systems, the method used for the Greenpower hydroponic study is referred to as the nutrient film technique (NFT), in which a shallow stream of water containing plant essential nutrients is constantly recirculated and flows over the plant roots.

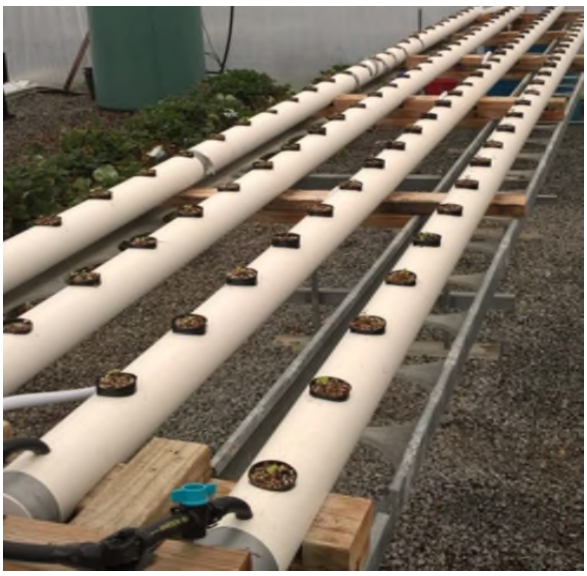

Figure 3. Bok choy in the NFT hydroponic system.

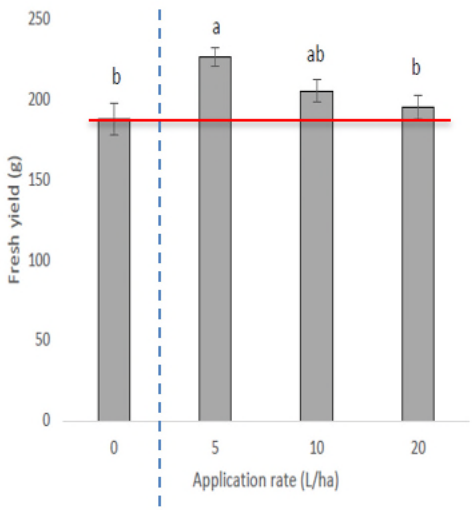

Figure 4. Fresh yield of bok choy grown in hydroponic conditions with foliar application of OHD liquid at rates of 5, 10 and 20L/ha.

Reaffirmation of OHD as a flowering plant and seed stimulant

As part of the current hydroponic trials Greenpower requested Monash also conduct trials on rocket in a hydroponic setting to further test the understanding that the use of the OHD bio-stimulant fertilisers is not suited on varieties such as rocket and lettuce with the results as expected and mirroring studies on lettuce undertaken by Monash.

Studies to date have confirmed that the OHD bio-stimulant fertiliser deliver positive yield results as studies have concluded that the OHD bio-stimulant fertiliser enhances reproductive activity in plants that produce flower and seeds (see ASX market release "Successful OHD Cereal Crop Trials" dated 15 February 2017). Target markets in the hydroponic sector are focussed on those plant varieties that fruit and flower with a focus on tomatoes, strawberries, greens vegetables, cucumbers and melons.

This reaffirmation was important and is crucial in helping the Company finalise the OHD PFS. Results contrary to earlier studies would have required Greenpower to perform additional trials which may have resulted in delays.

Greenpower Executive Chairman, Gerard King:

"The benefits of growing vegetables in hydroponic conditions have been well reported, including increased yield and quality of produce particularly in sub-optimal environments. The hydroponic trials conducted by Monash on behalf of the Company provide further comfort the OHD bio-stimulant fertiliser can successfully deliver an uplift in yield for crops that flower and fruit in a hydroponic growing environment.

The positive results provide additional market scope and opportunity to be covered by the OHD PFS which is currently nearing completion and will complement Greenpower's focus of the crop cereal and horticultural markets."

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For further information:
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Chairman of the Board