

Langleys Bio-Energetic™ technology

- The Next Generation Seed Coating Inoculum
- for both Conventional and Regenerative Farming Systems

This Trial -

1. uses Langleys Bio-Energetic™ technology to:
 - inoculate seeds with a multi-strain suite of energized beneficial microbes (BMB);
2. Results show:
 - increased germination rates and plant performance;
 - increased root growth and levels of soil organic carbon (SOC);
 - increasing Yield and Water Use Efficiency (WUE);
 - increased food nutrient density, quality and shelf-life.



Langleys Bio-Energetic Microbes **P.1**

Case Study - Bok Choy Program **P.1**

Results and Conclusion **P.2**

Comparing Regenerative vs Conventional Systems in Horticulture – using new Bio-Energetic Technology.

Report by PJ. Storer (FL Tech) and S. Brain (Field Capacity)

Aim :

An initial shade house trial was conducted at Redlands Research Station to compare the use of Langleys Bio-Energetic™ Microbe blend (BMB) technology with Troforte Biomineral fertilizer & pre-existing Ag microbe system; and also *versus* a Conventional program (+/- BMB microbes).

Case Study: Bok Choy Shade house Trial

Bok choy seeds (3 per pot) were grown for 45 days in washed river sand and then harvested. The seeds were either treated with –

1. Troforté blend microbes (Ag microbes);
2. Langleys Bio-Energetic Microbes (BMB); or
3. No Microbes.

Fertilizer regime 25g per pot –

1. Troforté NPK Biomineral Fertilizer @25g per pot;
2. Conventional NPK (CK 88) @25g per pot;
3. Control (No fertilizer).

Summary of Trial Results (sample of data presented on Pg 2):

The application of **Langleys Bio-Energetic™ Microbe blend** as a seed dressing:

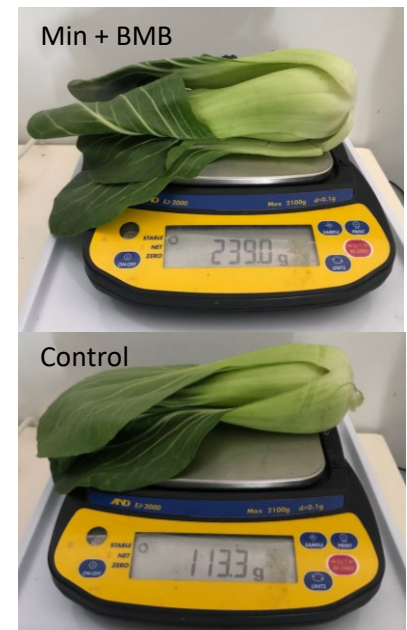
1. Showed increases in *YIELD and QUALITY*.
2. Shelf life increased (av between 4.3d to 11.7d).
3. Improved on the performance of the pre-existing Biomineral/microbe program.
4. In addition, the Conventional program was also significantly improved by application of the BMB microbes.

Interestingly, it was noted that the BMB treated plants (both Biomineral and Conventional) had less *insect issues* (particularly from fungus gnats).

Dry weight (ie fibre with less water in the leaf tissue) and root biomass increased with the BMB - indicating that there are potential cost savings achieved by using less water and decreased requirement for Ag chemicals.

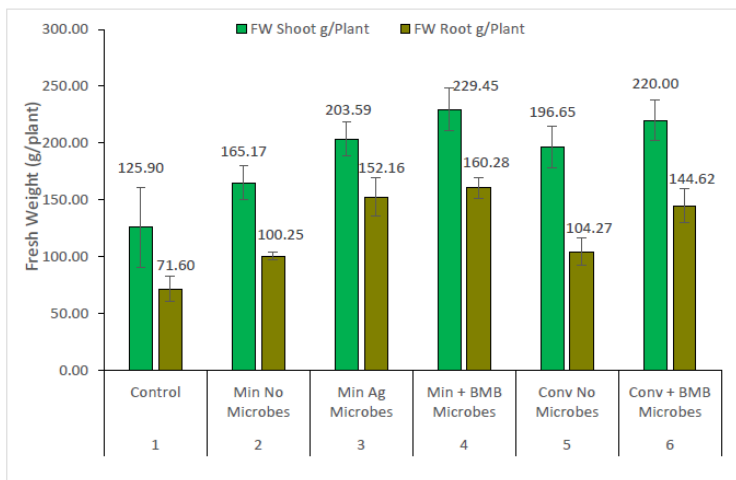
Both programs (+ BMB microbes) showed improved germination rates and significantly increased root development patterns & root biomass growth –
 Min+BMB up 209%DW vs no microbes;
 Conv+BMB up 168%DW vs no microbes
 - along with increased soil organic carbon (SOC) – meaning better WUE.

Bok Choy comparison trial

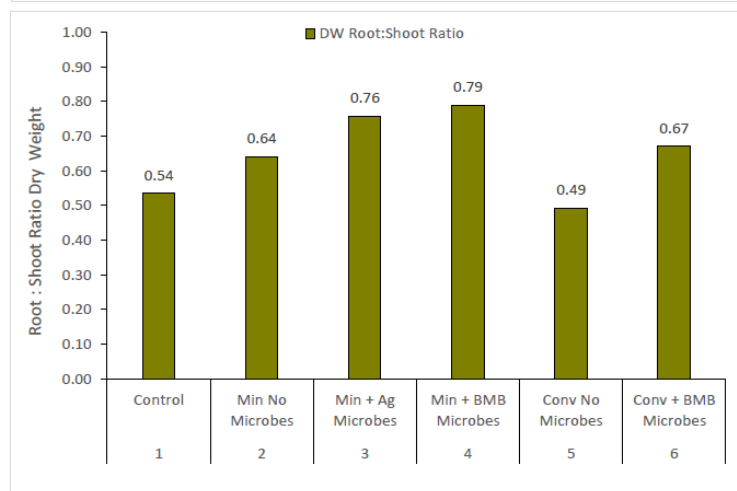
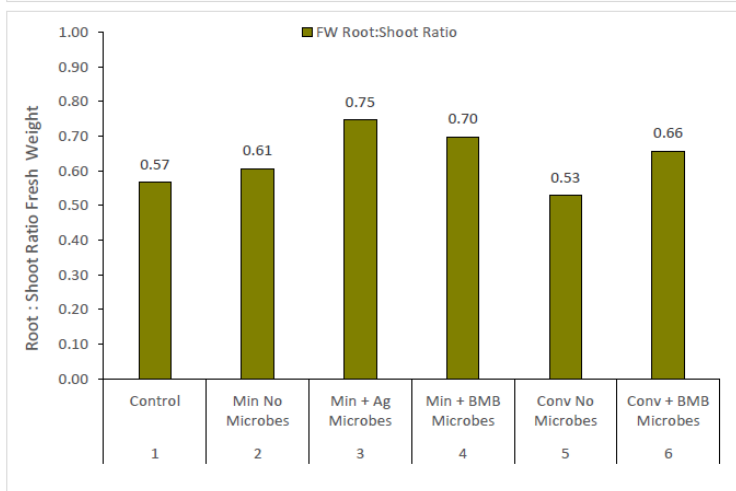
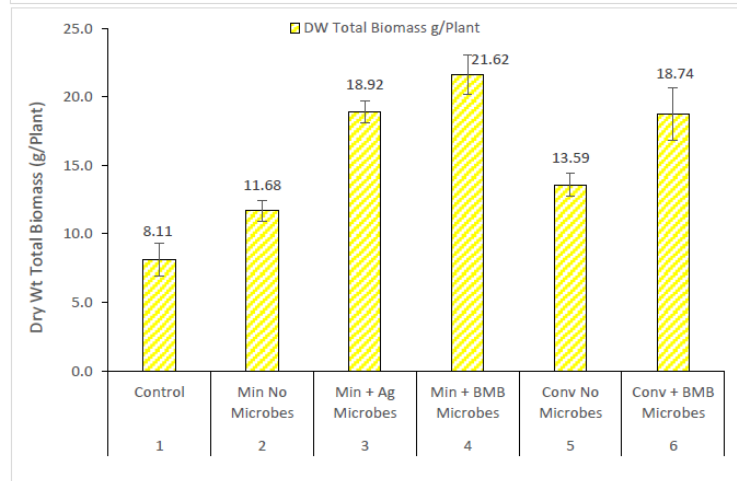
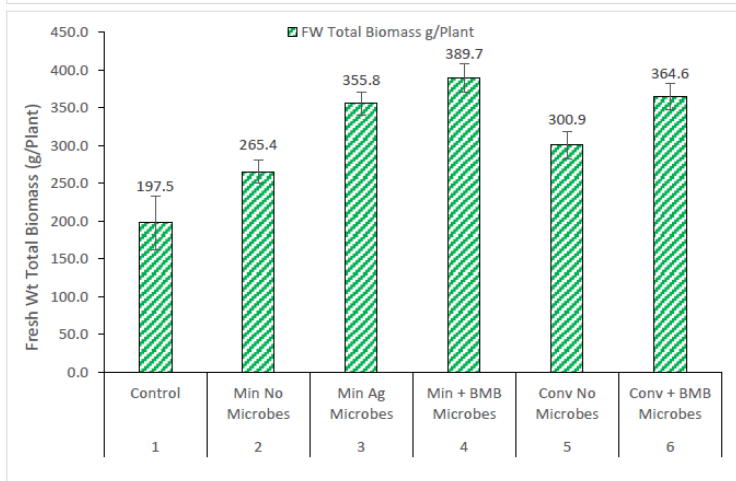
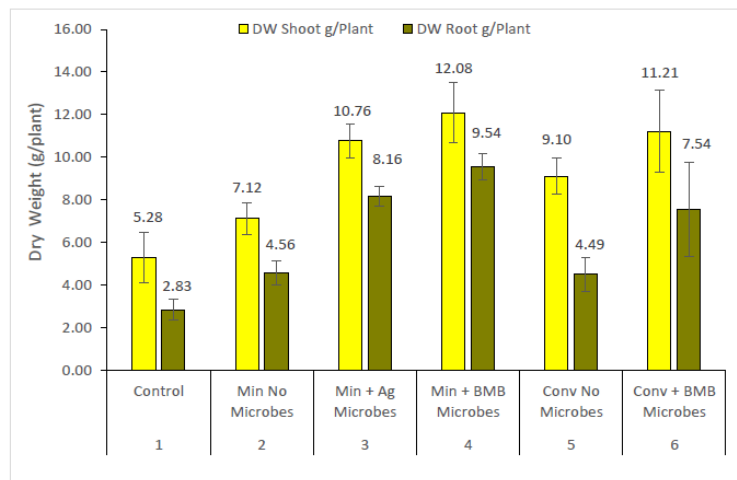


Typical Examples of Trial Bok Choy shoots (Top) Biomineral fert + BMB (Bottom) Control

Fresh Weight



Dry Weight



Take Home Message:

- The application of **Langleys Bio-Energetic™ Microbe blend** as a seed dressing has great potential:
 - It has been successfully used on both Conventional and Regenerative Farming systems. Both -
 - Showed improved plant performance, yield and ultimately profitability;
 - Showed more efficient nutrient uptake;
 - Significantly increased mineral nutrition in the leaves (more nutrient dense food);
 - Showed increased root development, soil organic carbon (SOC) - therefore requires less water (high WUE);
 - Greatly improved quality and post-harvest shelf life.