

## EFFECTIVENESS OF LIQUID BIO-FERTILIZERS ON ORGANICALLY GROWN RADISH IN THE MATHALE DISTRICT, SRI LANKA

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Bio-fertilizers have been introduced as a remedy to overcome the low productivity in organic farming. The information regarding the effectiveness of Bio-fertilizers on organic vegetable cultivation in Sri Lanka is limited. A pot experiment was conducted to evaluate the effectiveness of liquid bio-fertilizers viz. Eco seed treat plus and Eco green plus on growth and yield of organically grown radish (*Raphanus raphanistrum* subsp. *Sativus*) cv – *Beeralu*. The experiment was arranged in Complete Randomized Design(CRD) in a shade house with 4 treatments and 5 replicates in Mathale district. Tested treatments were T<sub>1</sub> Control (without bio-fertilizer), T<sub>2</sub> Eco seed treat plus, T<sub>3</sub> Eco green plus, T<sub>4</sub> Eco seed treat plus+ Eco green plus. Each replicate consisted of 7 plants. Eco seed treat plus was used as a seed treatment. Three applications of Eco green plus were done in 10 days intervals starting from 10 Days of Seed Emergence (DSE). Plant height at 9 DSE, was significantly higher in T<sub>2</sub> (4.79 cm) and T<sub>4</sub> (4.61 cm) when compared to T<sub>1</sub> and T<sub>3</sub>. At 18, 35 DSE and at harvest, T<sub>4</sub> recorded the highest number of leaves (4.84, 15.68 and 23.80) with the highest leaf length (3.45 cm, 12.87 cm and 20.42 cm). The longest roots (12.0 cm) with highest root diameter (1.23 cm) were recorded in the same treatment. The highest fresh weight of leaf (1.38 kgm<sup>-2</sup>), root (1.18 kgm<sup>-2</sup>) and whole plant (2.56 kgm<sup>-2</sup>) were also recorded in the same treatment. The highest dry weight of leaves (0.09 kgm<sup>-2</sup>), roots (0.08 kgm<sup>-2</sup>) and whole plants (0.18 kgm<sup>-2</sup>) were also recorded by T<sub>4</sub> treatment. In conclusion, use of Eco seed treat plus and Eco green plus in combination has a significant positive effect on growth and the yield of radish when compared to their sole use.

**Keywords:** Bio-fertilizer, Eco green plus, Eco seed treat plus, Organic farming, Radish