EFFECT OF SEAWEED EXTRACT OF *Padina antillarum* AS FOLIAR SPRAYS ON THE GROWTH AND YIELD OF RADISH (*Raphanus sativus* L.)

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ABSTRACT

Raphanus sativus var. "Beeralu Rabu" being one of the most essential vegetables in Sri Lanka. Radish require essential micro and macro nutrients for their optimum growth. It well responds to organic fertilizer. A pot experiment was carried out to evaluate the effects of different seaweed liquid extract application of *Padina antillarum* on the growth and yield of *Raphanus sativus* var. "Beeralu Rabu" in the Batticaloa district during the period of March to July 2024. The experiment was arranged in a completely randomized design with three replications. The experimental location was Faculty of Technology, Palacholai, Eastern University, Sri Lanka. Different concentration of the seaweed extract was defined as treatments viz. Seaweed extract concentration 10% (T1), 20% (T2), 30% (T3), 40% (T4), 50% (T5) and control (T6). The seaweed extract was prepared by using *Padina antillarum* and distilled water then the distilled water was used for prepared different concentration of the seaweed extract. The pure seeds were used as planting materials. Agronomic practices were followed uniformly for all treatments. Plant height, leaf area, number of leaves, tuber length, tuber diameter, fresh and dry weight of the leaves and tuber were measured at two-week interval. Analysis of Variance was performed to determine significant difference among treatments ($p<0.05$). Plants treated with 20% seaweed extract ($2.08 l/m^2$) showed significantly ($p<0.05$) better performance in measured growth parameters viz. plant height, number of leaves and yield parameters, while the lowest performance was observed in plants grown at control (T6) condition. From this study it could be concluded that, plants grown at 20% of seaweed liquid extract application would have received optimum nutrients as the growth and yield of the plants was higher and the results showed that seaweed extract from *Padina antillarum* can be used as a biofertilizer to improve Radish production and growth, providing sustainable and environmentally friendly alternatives to traditional fertilizations techniques.

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