INVESTIGATING THE IMPACT OF FISH TONIC ON THE GROWTH PARAMETERS AND YIELD OF SALAD CUCUMBER

(*Cucumis sativus* L.)

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2024

ABSTRACT

Foliar fertilization is a crucial technique for providing nutrients to crops. It has been employed to deliver additional dosages of plant hormones, stimulants, minor and major nutrients, and other advantageous compounds. Main objective of this research was to determine the effect of application of fish waste extraction on vegetative and yield parameters of salad Cucumber (*Cucumis sativus* L). The experiment was set up according to completely randomized design with four replicates for each treatment in a protected plant house at the Faculty of Science, Eastern University, Sri Lanka. The tested treatments were: Control (T1), Fertilizer recommendation given by Department of Agriculture (DOA), Sri Lanka (T2), and four different concentrations of fish waste extraction of 20 % (T3), 30 % (T4), 40 % (T5), and 50 % (T6). Fish waste extraction was applied at once in one week interval as a foliar application. The results showed that T4 had significant effects ($P<0.05$) on the growth and yield of salad cucumber, compared to the other treatments. The application of T4 significantly increased the height of plant (475.4 ± 2.99 cm), width of leaves (27 ± 0.2 cm), number of leaves (50.5 ± 0.28), length of leaves (26.87 ± 0.23 cm), fruit weight (640 ±47.8g), fresh shoot weight (912.5 ±23.6g), dry shoot weight (93.75 ±2.39 g), fresh root weight (57.5 ± 1.4 g), dry root weight (5.8 ± 0.17 g), number of seeds per fruit (257 ± 5.25), number of fruits per plant (15 ± 0.7), 100 seeds weight (4 ± 0.07 g) .The 30% fish waste extraction was identified as the optimal and economical rate for salad cucumber cultivation. These findings suggest that fish waste extraction is a valuable alternative for reducing the use of inorganic fertilizers. This study provides essential insights into the potential benefits of fish waste extraction for sustainable and eco-friendly agricultural farming systems.

Keywords: Fish tonic, Salad cucumber, Organic Farming, Foliar application, Growth, and Yield.

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