

## **Evaluation of Different Liquid Organic Fertilizers on Growth and Yield of Lettuce (*Lactuca sativa* L.)**

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Lettuce (*Lactuca sativa* L.) is among the most used leafy vegetables in Sri Lanka. Albert solution and other inorganic fertilizers are heavily used in lettuce cultivation. There is an increasing demand for organically grown lettuce because of human health concerns and environmental hazards due to the overuse of inorganic fertilizers. This study was conducted to evaluate the use of liquid organic fertilizers (LOF) on the growth and yield of lettuce. The experiment was laid out using a randomized complete block design (RCBD) with 5 replicates in a protected plant house at the Agricultural Experimental Station in Dodangolla, Kundasale. Organic liquid fertilizers, fish tonic, gliricidia leaf extract, cow dung slurry, jeevamrutha, and Albert's solution (the control) were used as the treatments. Two soil types, Immature Brown Loam (IBL) and Reddish Brown Latosol (RBL) were used as the growing media. The number of leaves, leaf area index, plant height, plant diameter, chlorophyll content, and leaf nutrients were taken as the growth and yield parameters, and soil nutrient contents were measured. The results showed that mean differences in all parameters evaluated were significant among treatments ( $p < 0.05$ ). Overall growth and yield performances were high in Albert's solution. The lettuce yield under Albert's solution was 24% (dry weight basis) more than with the fish tonic treatment. Among the LOF, fish tonic and gliricidia mixed with cow dung gave the highest growth and yield. The chlorophyll content of leaves was high in cow dung enriched with sugar treatment. Plant nutrient analysis showed that the nutrient content of lettuce plants has enhanced under the fish tonic and jeevamrutha treatments. The highest soil nutrient increase was observed under the fish tonic treatment. All the measured parameters were found high under the IBL medium when compared to the RBL medium.

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