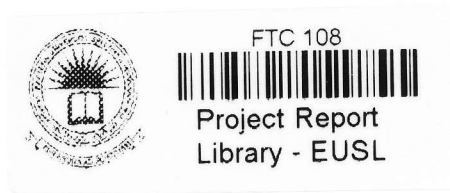


**GROWTH AND YIELD PERFORMANCE OF OKRA  
FERTILIZED WITH AZOLLA AND COW DUNG LIQUID  
FERTILIZER**



**BY**

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## ABSTRACT

This research was conducted to evaluate the efficiency of a liquid organic fertilizer using Azolla (*Azolla pinnata*) and cow dung on growth and yield of okra. The experiment was carried out during February 2023 to April 2023 at the Faculty of Science, Eastern University Sri Lanka. The study was designed with five treatments and four replicates. Treatments are T<sub>1</sub>- Control (recommended amount inorganic fertilizer by Department of Agriculture (DOA)), T<sub>2</sub>- 2/3 of recommended inorganic fertilizer by DOA and two times organic liquid fertilizer application, T<sub>3</sub> – 2/3 of recommended inorganic fertilizer by DOA and three times organic liquid fertilizer application, T<sub>4</sub> – 2/3 of recommended inorganic fertilizer by Department of Agriculture and four times organic liquid fertilizer application and T<sub>5</sub> – Four times application of organic liquid fertilizer. All other agronomic practices were followed based on DOA recommendation. Plant height, number of leaves per plant and leaf area were measured in 2 weeks interval. Plant fresh weight and pod weight were measured at the time of harvesting. Analysis of Variance was performed to determine significant difference among treatments ( $p < 0.05$ ).

The results showed that application of Azolla and Cow dung liquid fertilizer had significant effects on growth and yield of Okra (*Abelmoschus esculentus L.*) over the control. The results revealed that different number of application of Azolla + Cow dung liquid organic fertilizer combined with inorganic fertilizer had significant differences ( $p < 0.05$ ) on plant height, number of leaves per plants, leaf area, root length, fresh weight of plant, fresh weight of leaves, dry weight of leaves, chlorophyll content, number of flowers, fresh weight of pods and dry weight of pods. T<sub>4</sub> had the highest

mean plant height compared to other treatments and T1 had the lowest height compared to other treatments. Number of leaves was high in T4 whereas number of leaves was low in T1. Furthermore, significant different ( $p>0.05$ ) in yield was obtained in T4 (30.85g/plant) and least value was observed in T1 (8.50g/plant). Among the all tested treatments, 2/3 Inorganic fertilizer and four times of liquid fertilizer application at top dressing (T4) could be used in okra cultivation to be obtain better yield. Usage of Azolla organic liquid fertilizer would be a better alternative fertilizer in vegetable cultivation.

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