DEVELOPMENT OF COW URINE – DUNG MIXTURE AND BANANA PSEUDOSTEM ENRICHED ORGANIC FERTILIZER FOR IMPROVING GROWTH PARAMETERS OF OKRA

(*Abelmoschus esculentus*)

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2023

ABSTRACT

This experiment was carried out to study develop an organic liquid soil enhancer using organic waste materials from the agriculture animal and crop farms and to find the effect of formulated fertilizer. In this study, cow urine, cow dung and banana psudostem are used to make NPK rich organic liquid fertilizer for applying on Okra (*Abelmoschus esculentus*) cultivation. Okra (*Abelmoschus esculentus*) is annual herbaceous plant belongs to the Malvaceae family. It known as "lady's finger," and is a flowering plant that is native to Ethiopia but is now widely grown in tropical and subtropical regions around the world. The experiment was laid on complete randomize design (CRD) with six treatments and four replicate. The experiment location was department of botany department polytunnel, Eastern University Sri Lanka. The liquid organic fertilizer was prepared by using Banana Pseudostem extract with decomposed solution (cow dung+ cow urine). The treatments were T1 (100% inorganic fertilizer), T2 (100% liquid organic fertilizer), T3 (50%inorganic fertilizer+ 50% Liquid organic fertilizer), T4 (25% inorganic fertilizer+ 75% organic fertilizer), T5 (75% inorganic fertilizer+ 25% Liquid organic fertilizer) and T6 (Soil only as control). Analysis of Variance was performed to determine significant difference among treatments ($p< 0.05$). Plant provided with T1 and T2 was better performance in growth parameters viz. Plant height, Leaf numbers, Leaf area index, Leaf chlorophyll contents, and numbers of flowers and pods and, pod fresh weight and Pod length. While the lowest growth parameters were observed in T6 (control). From this study it could be concluded that, T3 (50%inorganic fertilizer+ 50% Liquid organic fertilizer) was the better fertilizer combination for the plant.

Key words: Cow urine, Cow dung, Banana psuedostem, Okra, organic fertilizer

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES