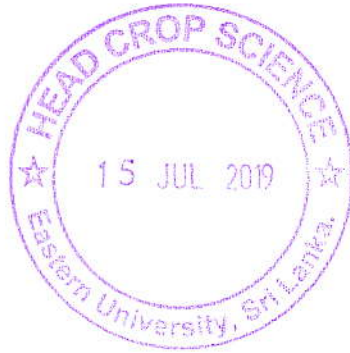
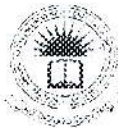


**DIFFERENT LEVELS OF NITROGEN FERTILIZER  
AND JEEWAMIRTA APPLICATION ON GROWTH  
AND YIELD OF *Abelmoschus esculentus* L.**



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# ABSTRACT

Okra is one of the important vegetable in the Eastern region of Sri Lanka. It can be response to the both organic and inorganic fertilizers to improve the growth and yield. Jeewamirta is an organic liquid fertilizer. The study investigated the “different levels of Nitrogen fertilizers and Jeewamirta application on growth and yield of *Abelmoschus esculentus* L. This experiment was carried out in the Crop Farm, Eastern university of Sri Lanka as a pot experiment during January to April 2019. The experiment was with six treatments and eight replicates in a Completely Randomised Design. The treatments are T1 (100% Urea), T2 (75% Urea + 25% Jeewamirta), T3 (50% Urea + 50% Jeewamirta), T4 (25% Urea + 75% Jeewamirta), T5 (100% Jeewamirta), T6 (Urea + TSP + MOP (control)) and tested their performance on the growth and yield.

Growth parameters and yield parameters shown significant increase treated with 25% Urea + 75% Jeewamirta (T4) in comparison with other treatments. This might be due to the presence of macro and micronutrients as well as growth promoting substances like IAA, GA and Cytokinins in Jeewamirta. The treatment receiving organic liquid fertilizer resulted in highest fungal population meanwhile Jeewamirta had the highest bacterial and actinomycetes population. Which regulate the plant function including cell division, plant growth and enzymatic activities; Promote root growth (Mg) and root development (P); Stimulate the flowering (K) and ultimately enhance growth and yield of plant.

The 25% Urea and 75% Jeewamirta (T4) increased plant height (20.89%), chlorophyll content (13.65%), number of leaves per plant (24.96%), number of pods per plant (21.09%), fresh and dry weight of roots (154.15%, 193.50%), fresh and dry weight of shoot (85.52%, 105.01%) fresh and dry weight of pods (32.53%, 134.63%), length and girth of pods (27.72%, 39.19%), leaf area (37.72%), tap root length (21.02%), number of lateral roots (76.19%) and total yield

per hectare (61.11%) in comparison to plants applied with Department of Agriculture recommended inorganic fertilizers (Control - T6).

Therefore, the 25% Urea and 75% Jeewamirta fertilizer could be recommended for the cultivation of *Abelmoschus esculentus* L. in order to enhance the growth and yield which is environmental friendly for Sustainable Agriculture.

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