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Effect of four different soil media on okra (*Abelmoschus esculentus* (L.) Moench) cultivation in Ampara

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The climatic conditions in the Ampara district are suitable for the cultivation of okra but the soil factors adversely affect plant growth. Therefore an experiment was conducted with four soil media to find a suitable soil mixture for okra cultivation. The location of the experiment was the Hardy Advanced Technological Institute, Ampara. The mean annual rainfall of the area is 1250mm - 1500mm and temperature is 25 - 27 ^{0}C.The soil type of the area is low humic gley. The four soil media tested were top soil (T1), compost +top soil + sand (1:1:1) (T2), cattle manure + top soil + sand (1:1:1) (T3) and poultry manure + top soil + sand (1:1:1) (T4). Humic top soil, well decomposed cattle manure and poultry manure were used to prepare mixtures. The experimental design was RCBD with three replicates. Twenty plants were maintained in one plot with the spacing of 90 cm x 60 cm. The size of the hole was 30 cm x 30 cm x 30 cm to facilitate the growth of the root system. Two seeds were planted in each hole and all the cultural practices and fertilizer applications were practiced according to the recommendations of the Department of Agriculture. The number of leaves, leaf length and width, height of plants, weight of pods and length of pods were counted. The leaf length, leaf width and plant height were measured at four day intervals from 45 days after planting. The pod weight was measured at 03 day intervals from 45 to 60 days after planting. The data were subject to ANOVA and the means were compared in DNMRT.

The treatment effect was significant at $\alpha = 0.05$. T3 had the highest mean values for all the measured parameters. The difference of T3 is significant in all measured parameters when compared with the other treatments. The treatment T3 (cattle manure + top soil + sand, 1:1:1) provides significantly higher yield compared with the other treatments when it is used as a medium for okra cultivation.

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