EFFECT OF DIFFERENT SOURCE OF ANIMAL MANURE COMPOST MIX ON THE GROWTH OF OKRA (*Abelmoschus esculentus*)

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ABSTRACT

This research study was conducted to investigate the effect of different animal manure-compost mixtures on the growth of the okra (*Abelmoschus esculentus*) plant. The compost was prepared by using banana leaves, paddy straw, and gliricidia leaves (*Gliricidia sepium*), and compost was mixed with different animal manures in a 1:1 ratio. The animal manure-compost mixture was named as type-1 (compost + cattle manure), type-2 (compost + goat manure) and type-3 (compost + poultry manure). These three different animal manures- compost mixtures were incorporated with topsoil at two different rates such as 25% and 50% to prepare potting media. The study comprises seven treatments including a control. Physiochemical parameters such as pH, moisture, and nitrogen contents of the potting media were measured at Biosystems Technology Laboratory, Faculty of Technology, Eastern University Sri Lanka. Okra seeds were planted in prepared potting media in polythene bags and all other agronomy practices were done as recommended by the Department of Agriculture, Sri Lanka. Growth parameters such as plant height, number of leaves per plant, and stem diameter were measured during the 2^{nd}, 4^{th} and 6^{th} weeks after planting. Data on physiochemical properties of potting media and growth parameters were statistically analyzed using minitab17. It was found that the physiochemical properties of potting media were varied significantly among treatments. The results show that the different animal manure-compost mixture has a significant ($P<0.05$) effect on the growth of okra, suggesting that incorporation of manure-compost mixture improves soil nutrition and consequently enhances the growth of the plant and thus the application of chemical fertilizer could be avoided.

Keywords: Okra, poultry manure, compost mix, plant growth, physiochemical properties.

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