

Investigation of Yield Performance of Vegetable Cowpea (*Vigna Uniquiculata*) with Animal Manure Application at Kaluwanchikudy Area

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Abstract: The field experiment was conducted to investigate the yield performance of vegetable cowpea with animal manure application at Kaluwanchikudy area. The Randomized Complete Block Design (RCBD) was used for this experiment. Poultry manure, cattle manure and goat manure were evaluated with and without agriculture department recommended level of inorganic fertilizer for vegetable cowpea. The highest crop yield was obtained by the application of poultry manure combined with the recommended inorganic fertilizer. The lowest yield was obtained by the application of goat manure only. In addition the results revealed that goat manure and cattle manure were inferior to poultry manure as a source of organic manure for vegetable cowpea cultivation. The animal manures combined with chemical fertilizer gave a higher yield than treatment which was applied only animal manure. The soil analysis after each crop showed that the nitrogen content and phosphorus content of poultry manure treated plots were higher than other treatments. But potassium content was higher in goat manure treated plots. The results further revealed that poultry manure has a beneficial effect on crop growth and yield compared with other treatments. Therefore, the combined use of poultry manure with inorganic fertilizer application (DOA recommendation) has been recognized as the most suitable way of ensuring high crop yield.

Keywords: Animal Manure Application, Inorganic Fertilizer, Vegetable cowpea, Yield performance