



**INFLUENCE OF ORGANIC MANURES FERMENTED WITH EM  
SOLUTION (EM-BOKASHI) ON PERFORMANCE OF VEGETABLE  
COWPEA (*Vigna unguiculata*)**

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## ABSTRACT

An experiment was conducted at the Net house of Agronomy farm, Eastern University, Sri Lanka to study the influence of organic manures fermented with EM (Effective microorganisms) solution (EM-bokashi) on the performance of vegetable cowpea (*Vigna unguiculata*). The EM-bokashi was produced by using a mixture of rice bran (2.5 kg), rice husk (2.5 kg) and EM solution (6 L) in combination with cattle manure or goat manure or poultry manure (5 kg). The treatments included application of recommended chemical fertilizer (T<sub>1</sub>), non-fertilizer (T<sub>2</sub>), cattle manure EM-bokashi (T<sub>3</sub>), Goat manure EM-bokashi (T<sub>4</sub>) and poultry manure EM-bokashi (T<sub>5</sub>). EM-bokashi was applied at the rate of 34 g at 14<sup>th</sup> day before planting and 30<sup>th</sup> day after planting. This experiment was laid out in a Completely Randomized Design with 15 replications. The agronomic parameters such as plant height, leaf area, number of green and mature yellow pods, number of seeds, fresh and dry weights of stem, leaves, roots, nodules, green pods, yellow pods and seeds were recorded. After harvesting of pod, water, protein, crude fiber and ash % in dry seeds of vegetable cowpea was analyzed.

Plant height at 9<sup>th</sup> week, length of green pod, numbers of green pods and yellow pods, number of seeds per pod, fresh and dry weights of stem, roots, green and yellow pods, dry weight of nodules, leaves and yield of yellow pods in EM-bokashi treatments were significantly varied ( $p < 0.05$ ) from chemical and non-fertilizer application treatments. Application of goat manure EM-bokashi showed the highest mean number of nodules (33.66), plant height (56.16 cm), fresh weight of nodules (1.13 g), 100 seeds weight (18.74 g), fresh green pod yield (174.28 g), dry green pod yield (21.09 g), and dry seed

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