EFFECTS OF SELECTED ORGANIC SOURCES ON GROWTH AN BENE
YIELD OF COWPEA (*Vigna unguiculata*) (*cv.* WARUNI) T
IN SANDY REGOSOL OF BATTICALOA DISTRICT

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Organic crop production becomes increasingly popular in Sri Lanka. Traditional o ource a manures are bulky and required large in quantities. Therefore, identification of sustai ri Lank and cost effective organic inputs is vital at present. A field experiment was carried out qual gr crop farm, Eastern University, Sri Lanka, Vantharumoolai from May to July 20 as mix investigate the effects of selected organic sources on the growth and yield of cowpe T_1 - co Waruni). The soil was sandy regosol. The experiment was arranged in a randomized co owder block design with four replicates. The treatments include Treatment 1 (T_1) contro as us compost at the rate of 20 t ha^{-1}, T_3 – Liquid organic mixture (Amutha Karaisal) once ercent weeks interval and T_4 - fresh neem (*Azadirachta indica*) leaves at the rate of 20 t ha^{-1}. L organic mixture was prepared by mixing 20 L of indigenous cow urine, 20 L of fresh he res 20 kg of fresh indigenous cow dung and 2 kg of jaggery (ingredients for one acre) in a r the bucket and allowed to ferment 24 hours. Measurements were taken during vegetative, flo owe and maturity stages. Leaf area, biomass and yield were measured and the data were sub ean to statistical analysis. fol erfor

The results revealed that there were significant ($p < 0.05$) differences in the leaf area dica treatments during vegetative, flowering and maturity stages. Highest leaf area was ll n by plants belong to T_2, T_4 and T_3 during vegetative, flowering and maturity stages respe ell The results also showed that there were significant ($p < 0.05$) differences in biomass wd treatments during vegetative and flowering stages. Highest biomass was produced by belong to T_2, T_4 and T_3 during vegetative, flowering and maturity stages respe ey Significant difference ($P < 0.05$) was found in the grain yield between treatments. H yield was obtained from T_3. Possible reasons for highest yield in T_3 is due to enhance fertility, improved soil bio-physical properties and increased leaf area and biomass flowering and maturity stages. From this study, it could be concluded that liquid mixture could be used as an organic source for organic crop production instead of co and neem leaves as it is less bulky and less costly.

Keywords: Biomass, Compost, Liquid organic mixture, Leaf area, Organic manure

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