

**EFFECT OF DIFFERENT ORGANIC MANURES AND  
LEACHING ON MICROBIAL ACTIVITY IN SALINE SOIL**



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## ABSTRACT

Soil degradation caused by salinization is of great concern in concept because in reduced potential of agricultural lands. A leaching column study was conducted at soil science laboratory, Eastern University, Sri Lanka during June to September 2018 to study the impact of leaching with amendments on reclamation of saline soil. Cow dung, Poultry manure, partially burnt paddy husk and compost were used as soil amendments. All amendments were applied alone at the rate of recommendation. These treatments including control were replicated three times in a Complete Randomized Design (CRD). The amendments were added to saline soil which was collected from Vaharai area, Batticaloa having electrical conductivity (EC) = 22.25dSm<sup>-1</sup> and soil pH = 8.00. Soil mixed with manure was filled in columns, and then incubated in room temperature for one week. After incubation known amount of distilled water was added to each column in one week interval and after each leaching soil samples were collected from leaching column individually. Then, these were measured for pH, electrical conductivity, organic carbon and evolved CO<sub>2</sub> content. Organic amendments improved the saline soil quality by reducing the soil pH and EC. At the end of experiment reduction in pH was ranged from 7.15-7.185 in amended soil than control (7.455) and EC was ranged from 7.1-8.89 dSm<sup>-1</sup> in amended soil than control (10.11dSm<sup>-1</sup>). Partially burnt paddy husk is more effective in terms of reducing electrical conductivity and pH in saline soil. Poultry manure and Cow dung were the second best amendments. Partially burnt paddy husk can be recommended as the best amendment in reclamation of saline soils due to the improvement of properties of saline soil.

Key words: Amendments, Electric conductivity, Salinity.

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