Effect of Sulphate of Potash and Partially Burnt Paddy Husk on Electrical conductivity and Growth performance of Rice (*Oryza sativa* L.) Saline soil

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Soil salinity is a major contributing factor to the declining productivity of some paddy grown lands in Sri Lanka. A pot culture experiment was conducted at Eastern University, Sri Lanka to study the impact of Sulphate of Potash (SOP) and Partially Burnt Paddy Husk (PBPH) on soil electrical conductivity and growth performance of rice in saline soil. The experiment was conducted in two factor factorial experiments with 8 treatments including, four rates (0, 18, 36 and 72 kg/ha) of sulphate of potash and two rates (0 and 625 kg/ha) of partially burnt paddy husk (PBPH). These eight treatments were replicated three times and arranged in a Completely Randomized Design (CRD). The results revealed that the combining PBPH with sulphate of potash influenced the soil electrical conductivity favourably and was decreased from 19.1dS/m to ≤4 dS/m. Plant height and number of tillers were increased with increase in rate of K_2O in the form of sulphate of potash from 0 to 72 kg /ha. Highest 1000-grain weight was recorded at 72 kg K_2O/ ha application in PBPH amended and non-amended soil as 21.9 g and 20.8 g respectively. The results of this study suggested that by incorporating partially burnt paddy husk with increasing rate of sulphate of potash can be decrease the soil electrical conductivity and improve the growth performance of rice crop in saline soil.

Keywords: Sulphate of potash, partially burnt paddy husk, salinity, paddy

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