

## **Electrical Conductivity as Pedotransfer Function in the Determination of Sodium Adsorption Ratio in Soil System in Managing Micro Level Farming Practices in India: An Effective Low Cost Technology**

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**Abstract :** Analysis and correlation of soil properties represent an important outset for precision agriculture and is currently promoted and implemented in the developed world. Establishing relationships among indices of soil salinity has always been a challenging task in salt affected soils necessitating unique approaches for their reclamation and management to sustain long term productivity of Soil. Soil salinity indices like Electrical Conductivity (EC) and Sodium Adsorption Ratio (SAR) are normally used to characterize soils as either sodic or saline sodic. Currently, Determination of Soil sodium adsorption ratio is a more accepted and reliable measure of soil salinity. However, it involves arduous and protracted laboratory investigations which demand evolving new and economical methods to determine SAR based on simple soil salinity index. A linear regression model to predict soil SAR from soil electrical conductivity has been developed and presented in this paper as per which, soil SAR could very well be worked out as a pedotransfer function of soil EC. The present study was carried out in Orathupalayam (11.09-11.11 N latitude and 74.54-77.59 E longitude) in the vicinity of Orathupalayam Reservoir of Noyyal River Basin, India, over a period of 3 consecutive years from September 2013 through February 2016 in different locations chosen randomly through different seasons. The research findings are discussed in the light of micro level farming practices in India and recommend determination of SAR as a low cost technology aiding in the effective management of salt affected agricultural land.

**Keywords :** electrical conductivity, orathupalayam, pedotransfer function, sodium adsorption ratio

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