Statistical Relationship between Exchangeable Sodium Percentage and Sodium Adsorption Ratio for Some Soils, South of Libya

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ABSTRACT

Soil Exchangeable Sodium Percentage (ESP) which have been used by soil scientist to reflect soil sodicity, are laborious and time consuming laboratory test. So it is more appropriate to develop a method which uses a more simple soil sodicity index. In this study, a linear regression model for predicting soil ESP from soil Sodium Adsorption Ratio (SAR) was suggested for some soils from south of Libya. The statistical results of the study indicated that a linear regression was found (ESP=0.948 + 1.1145 SAR) with R2=0.9879, and can be used to calculate soil ESP as a function of soil SAR. Studied soils show low coefficient selectivity, and its value affected by soil SAR and salinity.