STUDY OF CATION EXCHANGE PROPERTIES OF SELECTED COASTAL SOILS IN SRI LANKA WITH SEA WATER

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by

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Abstract

Ion exchanged basically depend on several factors. Geology of the area and climatic condition of the area are the major factors among them. Geology and the climate determine the soil type of the area. Structure of the soil and its other physical properties will define its ion exchange capacity.

Soil physical properties were observed by using hand lens and noted. Sample drying were done by using normal oven at the Uva Wellassa University in standard manner. For organic matter analysis sample were burn at the 450^0C temperature for that muffle furness was used. For sample mixing magnetic stirrer was used. Major cations were measured using spectroscopic methods using Varian SpectrAA 240 AAS available at the Uva Wellassa University

Wet and Dry zones climate and the geological settings were made the soils in this region to bear high ion content. So there cation exchange capacities are higher.

More cation content prefer to exchange with H^+ in the soil. But Ca^{+2} more prefer other cations. Na^+ and Mg^{+2} exchange with oxidizable cations in the soil and K^+ and Ca^{+2} exchange with freely available cations. When soil contain more free surface sites newly introduce cations will bonded with them and higher the exchange capacity. Organic matter content in the soils also contribute for cation exchange process and it will increase the exchange capacity.