

RECLAMATION RESPONSE OF TWO DIFFERENT TEXTURED SALINE-SODIC SOILS TO EC_{iw} TO SAR_{iw} RATIOS

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ABSTRACT

A Lysimeter experiment was conducted to evaluate the effect of different ratios of electrical conductivity (EC_{iw}) to sodium adsorption ratio (SAR_{iw}) of irrigation water to reclaim different textured saline-sodic soils. The EC_{iw} : SAR_{iw} ratios were 4:1, 2:1, 1:1, 1:2 and 1:4 at EC_{iw} of 6 or 12 dS m^{-1} . The total water applied was equal to 3 pore volume in three equal splits. The results indicated that at both the EC_{iw} , leachate volume increased with an increase in EC_{iw} : SAR_{iw} . The EC and SAR of leachate remained statistically higher where EC_{iw} : SAR_{iw} ratios of the leaching solutions were lower than 1:1. The EC, pH, and SAR decreased with all the treatments, decrease being statistically more with EC_{iw} : SAR_{iw} ratio up to 1:1 or higher and was lower for loamy clay than that for the clay loam soil. The saturated hydraulic conductivity (K_{sat}) decreased with a decrease in EC_{iw} : SAR_{iw} and vice versa and was statistically higher for clay loam than that for the loamy clay soil. It is concluded that better EC_{iw} : SAR_{iw} ratios were up to 1:1 for reclaiming clay loam and loamy clay soils at both the EC_{iw} levels of 6 and 12 dS m^{-1} .