



RESEARCH PAPER

Soil properties as influenced by use of irrigation water having variable RSC and different varieties of groundnut (*Arachis hypogea* L.)

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Abstract : A pot experiment was conducted during summer-2019 at Net House, Department of Agricultural Chemistry and Soil Science, Junagadh Agricultural University, Junagadh to study the “Soil properties and different varieties of groundnut as influenced by variable RSC of irrigation water”. The pot experiment comprising of four RSC levels (0, 2.5, 5.0 and 7.5 meq L⁻¹) and four different groundnut varieties (V₁-TG-37-A, V₂-TPG-41, V₃-GJG-31 and V₄-GG-6) by adopting completely randomized design (Factorial) replicated three times. The available P₂O₅, organic carbon and available Mn of soil after harvest of the crop were found maximum with RSC-0 meq L⁻¹. Remaining micronutrients were not affected by RSC water and varieties. The water soluble cations like Ca, Mg, Na and K, exchangeable cations like Ca, Mg and CEC and EC_{2.5} and EC_e were found maximum with irrigation water having RSC -0 meq L⁻¹. Water soluble CO₃²⁻ and HCO₃⁻ exchangeable cations like Na and ESP, pH_{2.5} and pH_s were observed highest with RSC value 7.5 meq L⁻¹. The highest value of available K₂O and organic carbon, water soluble cations like Mg and K, exchangeable K and EC_{2.5} were observed with the variety V₂-TPG-41. Exchangeable Na and ESP and available N were observed highest with variety V₁-TG-37-A. The combined effect of RSC of irrigation water and variety was found significant on available N, water soluble Ca, Mg, K and ESP of soil after harvest of the groundnut crop.

Key Words : Groundnut, Sodicity, RSC, Variety, Available macronutrients, Available micronutrients, Water soluble, Exchangeable cations, soil properties

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