

ABSTRACTS



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Halophytes for Enhancing the Productivity of Extreme Saline Soils of North West India

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Abstract: Saline desert, popularly known as Ranns constitutes a sizeable area in North West India. It constitutes 7505.22 Sq. km known as Great Rann and 4,953 sq. kms known as Little Rann. This ecosystem is characterized by extremes of soil salinity. Soil salinity at some places reaches 83 dS/m. The survival and growth of natural vegetation is not possible at these levels of salinity. Only halophytic salt tolerant grasses and non grasses dominate the area. The study was carried out to characterise these ecosystems. The soil characterization in terms of organic carbon, pH, EC and water soluble ions pertaining to both Little Rann and Great Rann was undertaken. The major halophytes were *Salvadora sp*, *Suaeda nudiflora*, *Cressa cretica*, *Aeluropus lagopoides*, *Sporobolus marginatus* and *Urochondra setulosa*. *Salvadora* and *Suaeda* were mostly browsed by camels. There was variation in occurrence of plant species as per the variation in soil salinity. The plant *Urochondra* was noticed in the extreme saline area near India Bridge indicating that plant grows well in very high saline environment. The plant *Cressa cretica* was seen at all sites of variable salinity. These halophyte plants survive by different mechanisms. In grass halophytes such as *Aeluropus lagopoides* and *Sporobolus marginatus*, potassium dominated sodium whereas in non-grass halophytes, sodium ions dominated. Highest Na^+/K^+ ratio was observed for dicots compared to monocots. The palatable halophytes based on nutritional quality were identified.