ABSTRACT

The study is based on the investigation of the success rate of plant colonization on the solid waste from an industrial site. For this purpose, Ittehad Chemicals was selected as the prime extruder of solid waste material. This industry produces two kinds of solid wastes: Red waste; comprises of impurities of rock salt and the other kind is the White waste which is the waste lime produced by bleaching of lean chlorine. Selection of species was based on their tolerance to high salt concentrations. Seeds of *Suaeda fruticosa* and cutting of *Tamarix aphylla* were utilized. The experimental set up consisted of treatments at concentrations of 5%, 10%, 15% and 20% in order to estimate the amendments to the solid waste material that would make it suitable for plant growth. This set up was compared to another parallel set up that investigated the response of both species to different salt concentrations. Chemical analysis of both species revealed a significant content of Na^+, in case of red soil, while Ca^{++} was more significant in case of white soil. *T. aphylla* showed an absorbance tendency towards Ca^{++} and Na^+, than *S. fruticosa*.

The results indicate that the growth of both species was suppressed with an increase in solid waste concentration, which corresponded to the results obtained from the salt concentrations. *S. fruticosa* exhibited a more pronounced growth pattern as compared to *T. aphylla*. The amendments suggested through our results for the establishment of *S. fruticosa* was a ratio of 80:20 of garden soil: solid waste, whereas for *T. aphylla*, an amendment of 85:15 was suggested.