

# Effects of physical and chemical soil properties on growth of *Haloxylon sp.*

Amin MOJIRI<sup>1</sup>, Ahmad JALALIAN<sup>1</sup>, Naser HONARJOO<sup>1</sup>

<sup>1</sup>Islamic Azad University, College of Agriculture, Department of Soil Science, Khorasgan Branch, Isfahan, Iran, (e-mail: amin.mojiri@gmail.com)

## Abstract

This study evaluated the effects of physical and chemical soil properties on growth of *Haloxylon sp.* in Isfahan province in center of Iran. Today desertification as a serious problem has gripped many counties. One way to prevent the spread of desert area from blowing sand is the biological fixation using compatible plant species, *Haloxylon sp.* is suitable for this purpose. In order to do this research, Total 10 profiles as a vertical transect were studied and from each depth profiles of 0-30, 30-60, 60-90, 90-120 cm sampling was conducted. For each soil sample, pH and electrical conductivity were measured in the extract 1:1 and percent sand and clay were measured by Pipette method and saturation point was measured. Depth of hardpan from the soil surface was determined. Plant parameters, including plant height and top environment were measured. It should be noted that in the study area all of *Haloxylon sp.* were the same age and nearly 18 years old. After preparing the data, measure were taken to analysis and compare the statistics and averages using the SPSS software. The results showed that the electrical conductivity, pH, SP and percent clay have negative effects on plant parameters. Percent sand and depth of hardpan from the soil surface have positive effects on plant parameters. Carbonate Calcium, gypsum, phosphorous and organic matter do not have significant effect on plant parameters.

Key words: soil, SP, *Haloxylon sp.*

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