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(Haloxylon persicum)

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SP EC pH

CEC

TDS PSW PSS ESP SAR

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(*Haloxylon sp.*)

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Mg K

P

Ca pH

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EC

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0°17'
22°29' 22°25'

(
0°22'

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Jones

Reynolds

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pH

(EC) (SP)

(Cl) (Ca+Mg)

(SO4) (HCO3) (CO3)

(CaCO3) (gravel)

(OM) (CaSO4)

(P)

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(K) (Na)

(SAR) (CEC)

(PSS) (ESP)

(TDS)

(PSW)

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SAS

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(Ordination)

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Analysis) RDA

CANOCO

(Redunancy

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CANODRAW

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(Sand 3)

(OM 1)

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(OM 2)

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(CEC 2)

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(PSW 2)

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(

(Clay 3)

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(CaSO4 5)

(r)

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RDA

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RDA

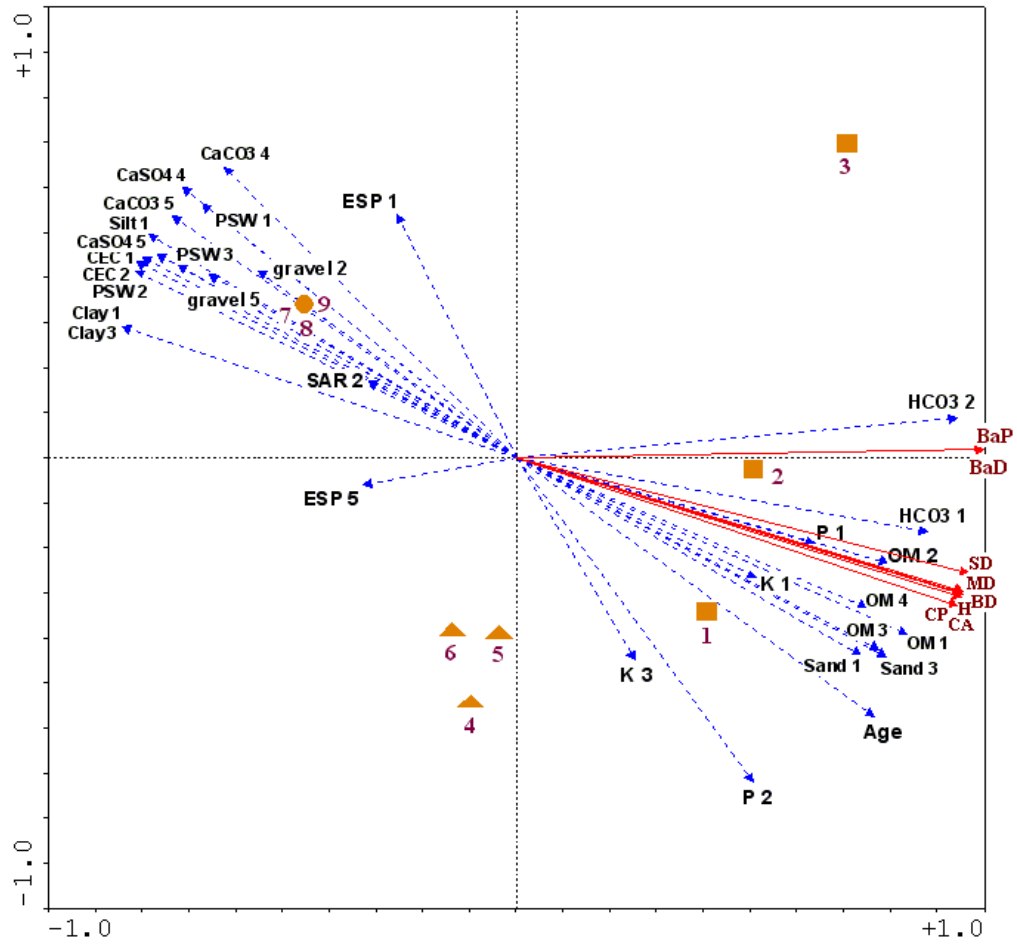
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/	/	/ **	/ **	/ **	/ **	/ **	/ **	CaCO3 4
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/ *	/ *	/ **	/ **	/ **	/ **	/ **	/ **	CaSO4 4
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/ *	/ *	/ *	/ *	/ *	/ *	/ **	/ **	PSW 1
/ **	/ **	/ **	/ **	/ **	/ **	/ **	/ **	PSW 2
/ *	/ *	/ **	/ **	/ **	/ **	/ **	/ **	PSW 3
/ *	/ *	/ **	/ **	/ **	/ **	/ **	/ **	Sand 1
/ *	/ *	/ **	/ **	/ **	/ **	/ **	/ **	Sand 3
/ *	/ *	/ **	/ **	/ **	/ **	/ **	/ **	Clay 1
/ **	/ **	/ **	/ **	/ **	/ **	/ **	/ **	Clay 3
/ *	/ *	/ *	/ *	/ *	/ *	/ *	/ *	Silt 1
/ *	/ *	/ **	/ **	/ **	/ **	/ **	/ **	CEC 1
/ **	/ **	/ **	/ **	/ **	/ **	/ **	/ **	CEC 2
/ **	/ **	/ **	/ **	/ **	/ **	/ **	/ **	P 1
/ **	/ **	/ **	/ **	/ **	/ **	/ **	/ **	P 2

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- CA
- CP
- BD
- SD
- MD
- H
- BaD
- BaP

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CEC

CEC

CEC

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) PSW

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PSW

(PSW 3 PSW 2 PSW 1)

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(*Atriplex canescens*)

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(:) *Haloxylon spp*

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19- Brands, P., Hoest, J. and N., Marsh, 2000, Effects of topography on the relationship between soil conditions and vigor of *Andropogon gerardii* and *Sorghastrum nutans*, *Tillers*, 2: 1–10.

20- Jones, C.A., 1983, Effects of soil texture on critical bulk density for root growth, *Agronomy*, 47: 1208– 1211.

21- Reynolds, D. B., Gerard, P. D. and M. S., Cox, 2005, Selected soil property variability and their relationships with cotton yield, *soil science*, 170: 928-937.

22- Ter Braak, C. J. F., 1986, Canonical correspondence analysis, A new EIG. Vector technique for multivariate direct gradient analysis, *Ecology*, 67: 1167-1179.

23- West, N. E., 1983, *Ecosystem of the world: Temperate deserts and semi-desert*, Elsevier Scientific Publishing Company, Amsterdam, 854 pp.

Relationship between *Haloxylon persicum* growth parameters and edaphic properties in planted habitat of Choupanan, Naein

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Abstract

Study of soil and plant relationships is necessary for ecological- based and appropriate management. The objective of this study is to determine the influence of edaphic properties on *Haloxylon persicum* growth and also, identifying growth limiting soil properties for saxaul. The study was performed through the stratified random sampling and 3 sites were selected as follow: planted strong saxaul, planted weak saxaul, rangeland without saxaul. Then 6 samples of *Haloxylon persicum* were selected in each region, meanwhile, plant parameters including canopy cover area, canopy cover perimeter, the smallest and the largest canopy cover diameter, average of canopy cover diameter, height, basal area and diameter were considered. Also, 9 profiles in sites were sampled and the following properties: pH, SP, EC, Ca+Mg, Cl⁻, CO₃⁻, HCO₃⁻, SO₄⁻, gravel, CaCO₃, CaSO₄, organic matter, clay, silt, sand, available phosphorous, Na⁺, K⁺, CEC, SAR, ESP, PSS, PSW and TDS were measured. Ordination method was used for data analysis. According to the results, plant parameters have significant differences in saxaul sites with the same age. Soil physical characteristics including soil texture and chemical characteristics such as organic matter, available phosphorous, CEC, salinity, CaSO₄ and CaCO₃ content showed the highest influence on saxaul growth parameters.

Keywords: *Haloxylon persicum*, Choupanan, Naein, Soil chemical characteristics, Plant parameters, Ordination