
Salsola richter *Salsola dendroides* *Salsola rigida*

S.richter

S.rigida *S. dendroides*

S.richter

S.rigida

S. dendroides

S.richter

S.richter

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(E_mail: Teimouri_a@yahoo.com)

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NaCl

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Salsola

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B.P

(NaCl)

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S.richter *S.rigida*

S.dendroides

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$$R_s = \sum_{i=1}^n S_i / D_i$$

=Rs

=Si

-Maguire

Between Paper

S. richteri n =Di
 =n
S.dendroides S.rigida :
S.richteri Minitab
 .() SAS
 . MSTATC
 () Excel
 (P < /)
 ()
S. rigida
 mM
 mM
 mM (P < /)
 ()
S.dendroides
 ()
S.dendroides
 ()
S. richteri .()
S.dendroides S.rigida
S. richteri
 .()
 ()
S. richteri
 (P < /)
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S. richteri S.rigida
 ()
S.dendroides *S.rigida S.dendroides*
 ()

S.rigida

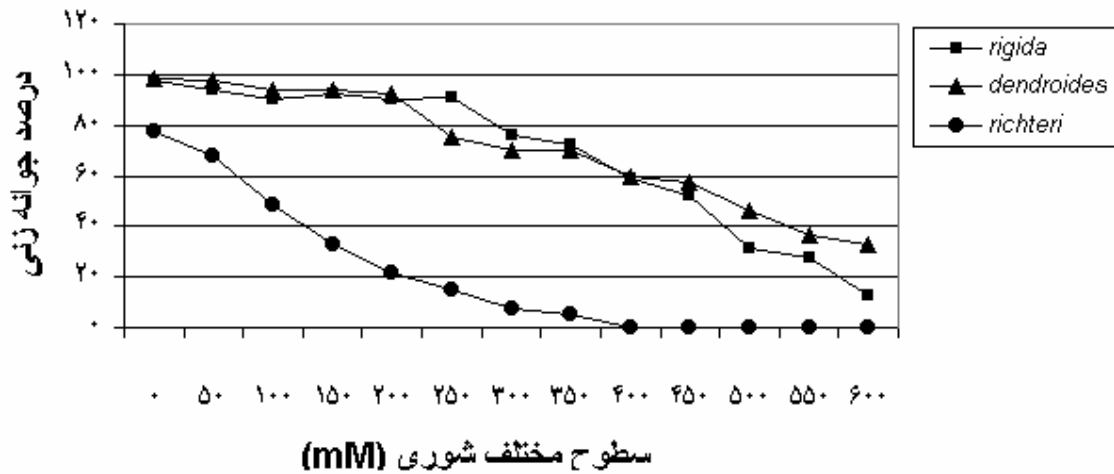
mM

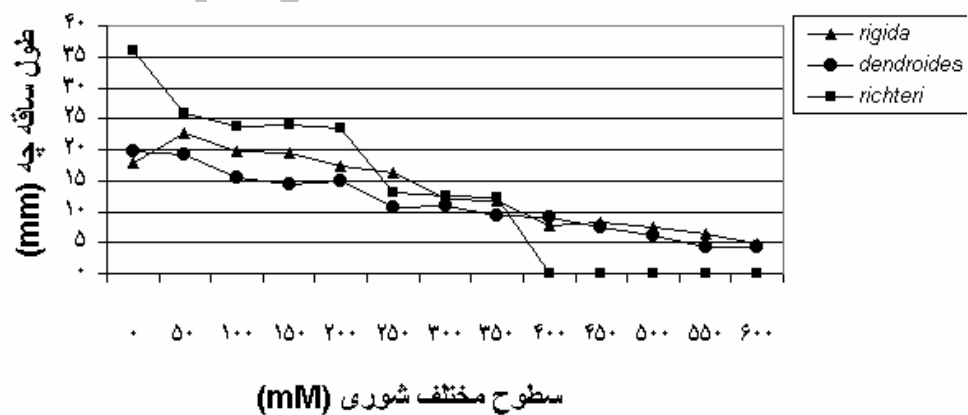
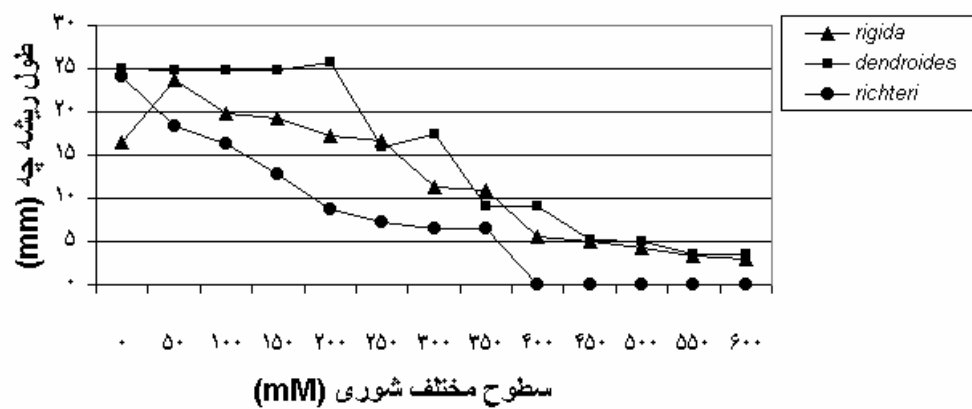
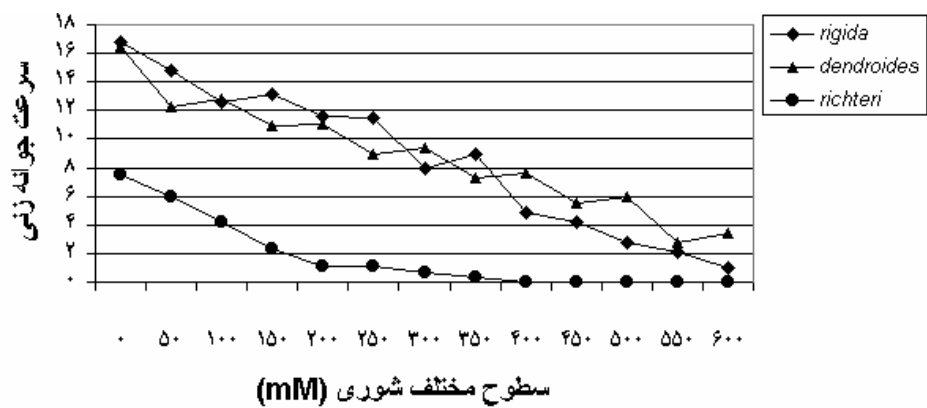
mM

S.dendroides S.richteri S.rigida

() MS				(df)	(s.o.v)
/ **	/ **	/ **	/ **		x
/ **	/ **	/ **	/ **		
/ **	/ **	/ **	/ **		
/	/	/	/		
/	/	/	/		%

(mm)	(mm)			
/ a	/ b	/ a	/ a	<i>S.rigida</i>
/ b	/ a	/ a	/ a	<i>S.dendroides</i>
/ a	/ c	/ b	/ b	<i>S.richteri</i>





S. richteri

S. richteri

NaCl

S. dendroides

S. rigida
S. richteri

mM

S. richteri

mM

(.)

S. richteri

S. rigida *S. dendroides*
S. richteri

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()

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()

S. richteri

mM
S.dendroides

S.richteri mM *S. dendroides*

mM *S.rigida*

()

S.rigida mM

S.rigida *S.rigida*

S.rigida *S.dendroides* ()

S.richteri *S.richteri*

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Effect of Salinity Levels on Seed Germination in Three *Salsola* Species

A.Teimouri¹ M.Moghaddam² H.Heidari sharif abad³ M.Jafari⁴ H.Azarnivand⁵

Abstract

The effect of salinity stress on seed germination in 3 rangeland species of *S. rigida*, *S.richteri*, *S.dendroides* and to determine the salt tolerant species was investigated in this study. All three species are suitable for grazing as well as reclamation of arid and semi arid lands. This research was conducted using a factorial experiment based on CRD design with 4 replications. Experimental treatments included a combination of three species along with 13 salinity levels of 0,50,100,150, 200 ,250 ,300 ,350 ,400 ,450 ,500 ,550 and 600 mM concentrations. The results indicated that *S.dendroides* and *S.rigida* were more tolerant than *S.richteri*. While *S.dendroides* and *S.rigida* were tolerant to 600 mM, *S.richteri* was tolerant only up to 350 mM. With increase in salinity germination percentage and germination rate were reduced with the maximum germination occurring at the lowest salinity level. Increasing salt concentration up to 200 mM did not significantly decrease radicle length in *S.dendroides*, but in *S.rigida* with an increase in salt concentration (up to 50 mM) radicle length increased. Salinity increase in *S.richteri* caused decrease in radicle length. So *S.richteri* is shown to be more sensitive to high salinity levels at germination stage as compared to the other two.

Keywords: *Chenopodiaceae*, Salt stress, Germination percentage, Germination rate, NaCl, mM.

1-Senior Expert in Desert Management, Faculty y of Natural Resources, University of Tehran (Email:Teimouri_a@yahoo.com)

2-Professor, Faculty y of Natural Resources, University of Tehran

3-Staff Member, Seed and Plant Improvement Institute

4. Professor., Faculty y of Natural Resources, University of Tehran

5-Assistant Professor, Faculty y of Natural Resources, University of Tehran

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