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Effect of Different Salinity Stress Levels on Physiological Indices on Cocksfoot (*Dactylis glomerata*)

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Abstract: For evaluation the effect of salinity stress on physiological indices in cocksfoot grass, the species were planted in pots in the fall of 2009. Excrement was performed using 5 stress levels (check, 50, 100, 150 and 200 mmol) as treatment in a Randomized complete block design with four replications. results of analysis of variance showed that the all traits effacted by salinity and all traits had significant difference at 0.01 percentage level. Results showed that, *dactylis glomerata* Species that are severely affected by salinity and lower salinity levels of irrigation with a positive and significant impact on most of the characteristics or traits.

Key words: Salinity · Physiological indices · Dactylis glomerata

INTRODUCTION

Salt tolerance at germination stage is important factor, where soil salinity is mostly dominated at surface layer. High concentration of salts has detrimental effects on germination of seeds [1-4]. Plant growth is ultimately reduced by salinity stress but plant species differ in their sensitivity or tolerance to salts [5]. Artplex in salt levels in the temperature range 12 to 25 degrees Celsius temperatures are higher than the other and decrease with increasing seed germination [6]. Artplex Griffithii salinity and temperature of the experiment showed that increasing salinity of 345 mM reduced germination by 10 percent. The best temperature range for seed germination at different levels of salinity, temperature was at 10°C. Similarly, shoot length and rootlet length in the temperature range of temperatures 15, 20 and 25 degrees centigrade respectively [7]. Reform and restoration of arid rangelands of Iran to the long years of non-native species are used for artplex Gender [7].

They can be the most important artplex Canescen, artplex Lentiformis and artplex Halimus named. That the three species of Canescen of 1965 was first cultivated in Qazvin plain was spread wider than the other two species [8]. Today, the range of arid rangelands by this plant species is working and the amount is added each year [9]. Therefore it is necessary to study the effects of salinity and temperature on the Gender to be done. In this study of germination characteristics (final seed germination percentage, germination rate and number of days to first germination) and growth characteristics in two species Atrplex Canescens and *Atrplex* Halimus under the regimes of temperature and salinity levels have been investigated. The purpose of this study was Effect of different levels of salinity on germination factors in *dactylis glomerata*.

MATERIAL AND METHODS

Basic Plan: Tested in a randomized complete block design with four replications were evaluated.

Plant Material and Experiment Method: In this study, the experimental material was used as pasture *dactylis glomerata* at five different levels of salinity, that in 2009 year they were planted in pots and some traits were measured as: plant height, root and shoot length, number of leafs, Wet and dry forage yield.

Statistical Analysis: Analysis of variance and mean comparison was computed by MStatC at 0.05 percentage level.

RESULTS AND DISCOSSION

Results of analysis of variance (Table1) showed that the effect of treatment was significant for all traits at 0.01 percantage level in both reap.

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Table 1: Results of analysis of variance for measured traits

		MS									
SOV	df	1	2	3	4	5	6	7	8	9	10
Rep	3	0.004	0.002	0.068	4.56	0.93	0.001	0.001	0.01	0.15	1.91
Treatment	4	0.10**	0.05**	0.06**	95.89**	40.32**	0.09**	0.05**	1.52**	129.22**	48.7**
Error	12	0.002	0.001	0.028	3.45	1.05	0.001	0.001	0.01	0.024	2.00
CV (%)	-	17.73	16.14	8.35	17.20	13.54	26.37	26.24	4.56	11.74	26.43

1. Wet weight in the first harvest, 2. dry weight in the first harvest, 3. Plant height in the first harvest, 4. Root length in the first harvest, 4. Number of leafs in the first harvest, 6. Wet weight in the second harvest, 7. dry weight in the second harvest, 8. Plant height in the second harvest, 9. Root length in the second harvest, 10. Number of leafs in the second harvest, ** significant at 0.01 percentage level.

Table 2: Missing

Salinity levels	1	2	3	4	5	6	7	8	9	10
Check	0.48^{a}	0.36^{a}	3.15^{a}	15.25^{a}	11.25^{a}	0.32^{a}	0.27^{a}	2.95^{a}	14.25^{a}	10.5^{a}
50	0.29^{b}	0.21^{b}	2.83^{b}	16.5^{a}	8.75^{b}	0.21^{b}	0.15^{b}	2.7^{b}	2.95^{b}	7.35^{b}
100	0.18^{c}	0.14^{c}	1.96^{c}	9.12^{b}	9.00^{b}	0.06^{c}	0.04^{c}	1.80^{c}	1.32^{c}	4.00^{c}
150	0.13^{c}	0.10^{c}	1.29^{e}	8.12^{b}	6.00^{c}	0.01^{c}	0.01^{c}	1.18^{c}	1.32^{c}	2.00^{c}
200	0.05^{d}	0.04^{d}	0.75^{c}	5.00^{c}	3.00^{d}	0.01^{c}	0.01^{c}	1.5^{d}	1.01^{c}	3.00^{c}

1. Wet weight in the first harvest, 2. dry weight in the first harvest, 3. Plant height in the first harvest, 4. Root length in the first harvest, 4. Number of leafs in the first harvest, 6. Wet weight in the second harvest, 7. dry weight in the second harvest, 8. Plant height in the second harvest, 9. Root length in the second harvest, 10. Number of leafs in the second harvest

Results of mean Comparison showed that in both reap the check level were the best with higher value and 200 mmol levels was the weak with lowest value (Table 2). After check level, 50 mmol levels had high value of traits.

The results showed that the range is so severe Dactylis glonerata is affected by salinity and lower salinity levels of irrigation with a positive and significant impact on most of the characteristics or traits. For example in both reap, Positive effect on the amount of forage and hay and root length and leaf number and height of the bottom of the smell.

The results showed that all of the above characteristics are significant differences between the treatments studied. Mean comparisons showed that in all cases, irrigation and water control, the above factors has the highest value. Durability and performance of irrigation salinity level of 150 mmol was more durable.

Gunn and Farrar [9], in study on Effects of 4°C temperature from the first day of the experiment (basal temperature) on leaf area and weight and concluded that the cumulative increase in daily temperature based on temperature, leaf area and dry weight is increased. Thus, in the germination response to cold and salinity are different ecotype and ecotype in the treatment of cold on germination and seedling establishment of beneficial, but others will have little effect [10]. It is recommended that testing be performed in the wider and in the field.

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