Abstract

A total of 15.5% area (25 milion ha) in Iran are saline lands that have been abondenedlandsas aresult of salinity. One of the ways to use these lands for production is reduceingsalinity stress. Thestudywas conducted to decrease thesalinity stress for two species *Trifolium alexandrium* and *Medicago sativa* usinghumic acid,potassium and anti-stress fertilizers This researchwas done in laboratory of Cellular and Molecular Biology Research Center of University of Zabol in a factorial experiment in completely randomized design with four replications.The treatments were humic acid (9: 1000),potassium (3.5: 1000) and anti-stress fertilizer (1.2:1000). Four salinity levels (0,0.75,1.5,3 dS/m)were applied for *T.alexandrium*.andfour levels (0, 2, 6, 12 dS/m) tested for for *M.sativa.* that the treatments were applied to the seeds in petri dishes.Measured morphological characteristics were radical length and pedicallength,seedlingdry and freshweight and allometric coefficient (pedicallength/radical length) Germination indices wereseed germination rate, germination percentage, mean germination time and seed vigor index.Seedswere harvested after germination at the end of growing trail and, content of pigments (chlorophyll a,b, total chlorophyll) and carotenoids were measured.The results showed that there were significant differences amongdifferent treatments atdifferent levels of salinity. Analysis of variance in *M. sativa* showed that fertilizer treatments had significant differences on photosynthetic pigments, quantitative characteristics, germination characteristics and seed vigor index Results of *T.alexandrium*showed thatfertilizer treatments had significant differences on photosynthesis pigments, quantitative characteristics, germination characteristics and seed vigor indexexcept germination percentage. The results showed that although the treatments in this study was effective on quantitative characteristics, photosynthesis pigments. Totally, the results of the study showed that however, testd treatments had significant effects on quantitative characteristics and seed germination of *M. sativa* and *T.alexandrium*, but their effects weredifferent. Therefore, use of these fertilizers in salinity stressin salt sensitive plantscan be useful and effective.

Key words: Salinity Stress, Humicacid,Germination, Morphological haracteristics.

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Title

Effect of Humic acid, Potassium and Anti Stress Fertilizers to Reduce Salt Stress in Two Species *Medicago sativ* and *Trifolium alexandrium*

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