STUDY OF OCIMUM (OCIMUM BACILICUM L.) GERMINATION ATTRIBUTES AND SEED VIGOR UNDER SALINITY STRESS

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Soil and water salinity in arid and semi-arid regions, is one of the most important stresses, can severely limit crop production. This study was conducted to evaluate the effects of saline stress on seed germination based on completely randomized design (CRD) with three replications. The salinity stress were including: (2.5, 4.7, 8.8, 13.5 and 17.79 ds.m$^{-1}$) and treated by applies of NaCl. The results showed that saline stress had a significant effect (p≤0.01) on quality and quantity of seedling parameters. Among pretreatment, 18.8 ds.m$^{-1}$ had the most positive effect on germination coefficient (GC), seed vigor and mean germination time (MGT). In order hand, these seeds at the minimum time had the most germination rate. The most and least rate of germination was obtained by control and 13.5 ds.m$^{-1}$ respectively. So under different level of saline stress, 8.8 ds.m$^{-1}$ had useful effect on radical length, more lateral roots and higher proportion of root to plumule, and the most root and plumule fresh weight was obtained by 8.8 ds.m$^{-1}$ treatments. Overall, application of 8.8 ds.m$^{-1}$ salinity on seed suggested for obtains uppermost germination characters.

References