Biofertilizers are an alternative to mineral fertilizers for increasing soil productivity and plant growth in drought stress. To determine the effects of drought and nitrogen bio-fertilizer on flower quantitative yield, photosynthesis pigments, and proline content of Calendula (Calendula officinalis L.) an experiment was carry out in South region, north of Tehran. This study has been conducted split plot based on randomized complete block design with three replications in %01, %02, %03, %04. The factors treated at forth leaflet stages and were including: D (Control or applying %5 atm as field capacity (FC)), D2 (applying potential of %9 atm), D3 (applying potential of %2 atm), and D4 (applying potential of %1 atm), and nitrogen levels N. (Control or no applying nitrogen fertilizer), N1 (%3 L/ha nitrogen as nitrogen) and N2 (%5 L/ha bio-fertilizer as nitrogen in case of seeding). The traits of plant height, flower yield, the flower harvests of dry weight, photosynthesis pigments content and proline content. The results showed that drought stress, nitrogen fertilizer and its interaction had significant effect on plant height, flower yield, the flower harvests of dry weight, photosynthesis pigments content and proline content. Biofertilizers are an alternative to mineral fertilizers for increasing soil productivity and plant growth in drought stress. To determine the effects of drought and nitrogen bio-fertilizer on flower quantitative yield, photosynthesis pigments, and proline content of Calendula (Calendula officinalis L.) an experiment was carry out in South region, north of Tehran. This study has been conducted split plot based on randomized complete block design with three replications in %01, %02, %03, %04. The factors treated at forth leaflet stages and were including: D (Control or applying %5 atm as field capacity (FC)), D2 (applying potential of %9 atm), D3 (applying potential of %2 atm), and D4 (applying potential of %1 atm), and nitrogen levels N. (Control or no applying nitrogen fertilizer), N1 (%3 L/ha nitrogen as nitrogen) and N2 (%5 L/ha bio-fertilizer as nitrogen in case of seeding). The traits of plant height, flower yield, the flower harvests of dry weight, photosynthesis pigments content and proline content. The results showed that drought stress, nitrogen fertilizer and its interaction had significant effect on plant height, flower yield, the flower harvests of dry weight, photosynthesis pigments content and proline content (a<5%) In which the most flower yield (%25, %5kg, ha^-1) were achieved under soil medium stress (%5 atm). Also, maximum of plant height (%2, %4 cm) and photosynthesis pigments contents (1%2, %2%) were obtained on soil medium stress and proline content in optimum irrigation (%5 atm) %7 were lower than hard relatively stress. Application of the drought and bio-fertilizer increased qualitative and quantitative yield of Calendula. Also, the application of Bio nitrogen can be in order to reduction in application of nitrogen fertilizer in agro-ecosystem. Overall results showed that environmental factors as drought stress caused changing in medicinal growth plants and its quality and quantity of ingredients' effects.

EFFECT OF DIFFERENT MEDIA AND SALINITY LEVELS ON GROWTH PARAMETERS OF ROSEMARY (ROSMARINUS OFFICINALIS L.)

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Nowadays, saline stress is one of the major factors limiting agricultural production. According to the recent estimate, %1 percent of world’s areas are faced with the problem of salinity. Increasing of saline lands and the shortage of agricultural lands, identification and improvement of salt tolerant plants particularly medical and ornamental is important. Purpose of this trial is investigation of different growth media and salinity effect on growth of rosemary (Rosmarinus officinalis L.). This pot experiment carried out as a factorial experiment with randomized complete block and three replications. Four levels of saline water included: tap water (a-), saline water containing NaCl (b-), saline water with %2 Mm NaCl (a-) and Caspian Sea water (a-). Applied different media were loam soil (b-), control medium and Azolla compost* (%1:1) (b-), "peanut cocoon and control medium" (%1:1) (b-) and the fourth media "%3 Azolla compost, loam soil %3% and rice husk %3% (b-). Salinity treatment was applied for three weeks and some growth parameters were measured. The results showed that the interaction of salinity and media influenced significantly (p<0.02) plant height, number of lateral branches, root dry weight and root length but the factors interaction did not have significant effect on number of leaves and root fresh weight.

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