

Effect of Salicylic acid and Jasmonic acid on salt tolerance inducing in Rosemary (*Rosmarinus officinalis* L.)

Mehrnoosh Nahrjoo*,

The effect of Salicylic Acid and Jasmonic Acid on salinity tolerance inducing in Rosemary (*Rosmarinus officinalis* L.) Abstract Salinity is one of the important factors limiting plant growth in the worldwide. The effect of Salicylic acid (SA) and Jasmonic acid (JA) was evaluated on rosemary plants under salt stress. Pot experiment was conducted as a factorial based on a completely randomized design with three replications. The first factor was salicylic acid spraying at three levels (0, 0.1 and 0.3 mM), and the second factor was the spraying of Jasmonic acid at three levels (0, 75 and 150 mM) and the third factor was salinity stress at four levels (0, 2, 6 and 10 dS/m). The results showed that with increasing salinity, the most of morphological traits, protein content, chlorophyll a, total chlorophyll and catalase enzyme activity were significantly decreased, while the amount of proline of leaf, activity of superoxide dismutase and peroxidase and chlorophyll b significantly increased. The interaction of salinity \times SA \times JA was significant on leaf protein, fresh and dry weight of root and total fresh and dry weight. Although salinity stress reduced the mean of these traits, but the SA application increased the mean of these traits. Also, with SA application, increasing of plant growth, proline and anti-oxidative enzymes were observed under salinity stress conditions. But the use of JA had little or no effect on the measured traits. Therefore, it can be stated that rosemary plant has partly the ability of salinity tolerance, but if the intensity of salinity be high, even the resistance mechanisms of the plant can not tolerate, but SA improved the damaging effects of salinity stress on the plant. Therefore, SA application in amount of 0.3 mM, which is relatively inexpensive and available, is recommended in dealing with salinity stress in this plant.

Keywords : Key words: Anti-oxidant enzymes, Proline, Protein, chlorophyll, NaCl

[Islamic Azad University, Rasht Branch - Thesis Database](#)

