Abstract

In order to investigate the effect of abscisic acid and selenium on the quantitative and qualitative characteristics of rosemary under drought stress, a factorial experiment was conducted in a randomized complete block design in the greenhouse of Zabol University, Agricultural Research Institute (Baqiyatallah Azam Research Institute) in 2019. Water treatments were applied in two levels (30 and 80% of field capacity) and foliar application treatment were applied in three levels for selenium (50, 75 and 100 ppm), three levels for abscisic acid (25, 50 and 100 μmol/L) and control. The results showed that phenol, flavonoid, proline, carbonate hydrate, protein, polyphenol oxidase enzymes, ascorbate peroxidase, catalase, guaiacol peroxidase, photosynthetic pigments, ion leakage, relative water content and essential oil percentage were affected by drought stress. The highest percentage of essential oil (0.54%) was obtained from severe stress. The results showed that the highest essential oil percent (0.39%) was obtained from 75 ppm selenium treatment. In general, most of the studied traits had the highest amount of stress treatment and 75 ppm selenium. Therefore, it seems that foliar application of selenium has been able to reduce the adverse effects of stress and be useful in stress conditions.

Key words: Essential oil, Abscisic acid, Rosemary, Selenium, Medicinal plant.

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Title

The effect of abscisic acid and selenium on the quantitative and qualitative characteristics of rosemary under drought stress

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