

Absract

Salinity is one of the most important factors that has reduced agricultural production in our country Iran, especially in Sistan and Baluchestan province. Milk Thistle is a valuable plant that has attracted attention of many researchers.

The flavonoids of this plant have antioxidant properties and are useful for regulating the body's metabolism. Also other studies have shown that this plant is effective in treating a variety of diseases such as liver, heart, and cancer.

In this study, the effect of salicylic acid on the possible effects of salinity stress on morphological characteristics of aerial part and root of Milk Thistle such as: fresh and dry weight of whole plant and root, fresh and dry weight of leaf and root, leaf width (leaf width), number Leaf length, leaf length, root length and relative leaf moisture content and total fresh weight of the whole plant were evaluated. In addition, qualitative traits such as photosynthetic pigments, anthocyanin, proline, carbohydrate, flavonoid, phenol and antioxidant properties were studied.

Salinity treatments including four densities of 0, 50, 100 and 150 mM were used. The way of apply salinity was that salt concentrations gradually increased in the nutrient solution. At the beginning of salinity stress, salicylic acid treatment was performed in three densities of 0, 0.5 and 1 mM in foliar application. The experiment was conducted in a completely randomized design with 12 treatments (4 levels of salinity and 3 levels of salicylic acid). The results showed that increasing 0.5 mM salicylic acid had a better effect in terms of quantitative and qualitative characteristics than increasing 1 mM salicylic acid. In this study. Then resistance to salinity was increased in milk thistle plant with the help of salicylic acid regulator.

Keywords: Silybum marianum (milk thistle), Salicylic acid, Salinity stress, Physiological indices.



University of Zabol

Graduate Management

College of Basic Sciences

Department of Biology

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Title

The role of salicylic acid in reducing salt stress effects in Milk thistle

(*Silybum marianum* L.)

Supervisors:

Dr. Shahla najafi

Dr. Alireza enali

Preparation

Mohammad Jahantigh

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