## عنوان مقاله:

Influence of Exogenous Application of Glycine Betaine on Growth and Ion Accumulation in Strawberry Plants under Saline Condition


## محل انتشار:

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## نویسندگان:

Shima Alaei - *Plant Biotechnology Research Center, Kermanshah Branch, Islamic Azad University. Kermanshah, Iran.*

Nasser Mahna - *Department of Horticultural Sciences, Faculty of Agriculture, University of Tabriz, Tabriz, Iran*



## خلاصه مقاله:

Glycine betaine (GB) plays a crucial role in plants and in their response to abiotic stress. This experiment was conducted to evaluate the application of glycine betaine (GB) and its ability to alleviate the effects of salinity stress (SS) on fruit yield and ion accumulation in strawberry (Fragaria × ananassa Duch cv. Paros). Three levels of SS (۰, ۲۰, and ۴۰ mM NaCl) and GB (۰, ۵, ۱۰ mM) were used on the plants in a greenhouse experiment. The results indicated that increasing the salinity level reduced the yield and altered the dynamism of ion accumulation. Leaf area, relative water content (RWC), leaf fresh weight, and yield decreased under salinity stress (۳۶.۷%, ۹.۲%, ۲۸%, and ۴۱%, respectively), especially at ۴۰ mM NaCl. Under SS, there was an increase in Na content of the roots, fruits, and leaves (۷۸%, ۵۴%, and ۷۸%, respectively) as well as in K content of the fruits (۵۰%), but with a decrease in the K content of the leaves (۲۹%) and the roots (۲۵%), and P content of the leaves (۵۵%). Overall, salinity increased the Na content, but reduced the K/Na ratio. Salinity and glycine betaine interactions had a significant effect on the Na content of the roots and leaves, the K content in the leaves, and K/Na ratio in the leaves and roots. At ۴۰ mM NaCl, using ۱۰ mM GB reduced the leaf and root Na content by ۲۲% and ۳۰%, respectively. Although the application of exogenous GB on strawberry changed the pattern of ion accumulation, it was not effective in diminishing the adverse effects of salinity stress on strawberry plants cv. 'Paros'.



## کلمات کلیدی:

salt stress, Glycine betaine, osmoprotectant, Elements, strawberry