

عنوان مقاله:

Beneficial effects of iodate in the maintenance of ionic homeostasis of salt-stressed strawberry

محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین‌المللی زیست‌شناسی ایران (سال: 1397)

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خلاصه مقاله:

Since the role of iodate in the maintenance of ionic homeostasis under salinity stress is poorly understood, the present study was performed to address this issue. Strawberry (*Fragaria × ananassa* Duch.) plants were grown under controlled conditions, and soils of iodine treatment were fertilized with KIO₃ (5 and 50 mg/kg soil) before filling the pots. Statistical analysis was performed by Sigma Stat (3.5) software with Tukey test ($p < 0.05$) on the basis of Completely Randomized Design (CRD). Root pretreatment of KIO₃ (at both 5 and 50 mg/kg) did not affect shoot growth under control conditions. In contrast, salt stress decreased shoot growth in KIO₃-untreated plants. However, salt-induced negative effects were significantly reduced in the KIO₃-pretreated plants, only at KIO₃ 50 mg/kg concentration. In contrast to the control condition, salinity alone caused an increase in internal Na⁺ and an obvious decrease in K⁺ content. However, Ca²⁺ uptake appeared unaffected by KIO₃ or salinity. We observed that KIO₃ in the saline soil diminished the Na⁺ content in dry matter and enhanced the K⁺ content, especially at KIO₃ 50 mg/kg concentration, consequently an increase in the ratio of K⁺ to Na⁺. These data provided the first evidence that the root-applied KIO₃ pretreatment alleviated salt stress in strawberry by controlling mineral homeostasis, resulting in better growth under salt stress

کلمات کلیدی:

Strawberry, Root-applied iodate, Mineral homeostasis, NaCl stress

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