

عنوان مقاله:

Interaction of nitrogen stress and salicylic acid on the physiological characteristics of borage

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خلاصه مقاله:

Deficiency of nitrogen may lead to decrease in yield and yield potential of crop plants. An experiment was done under glasshouse conditions in order to investigate nitrogen levels and salicylic acid interaction on some physiologic traits of borage (Borago officinials L.). In this experiment various levels of nitrogen (including; YY.Δ, ΔΔ, IIo, YYo and WWo mg/L from ammonium nitrate) and salicylic acid (including; zero, Foo, Aoo and IYoo μM) was used. The results indicated that stomatal conductance, photosynthesis rate, respiration rate, chlorophyll a, chlorophyll b, carotenoids, proline, and ascorbate peroxidase, were increased by increasing of nitrogen level. However, intercellular COY concentration, anthocyanin, flavonoids, soluble carbohydrates, catalase, and peroxidase were decreased. Among nitrogen levels, the maximum effect was obtained by YYo and WWo ppm treatments. Furthermore, salicylic acid spraying led to promote stomatal conductance, photosynthesis rate, transpiration rate, photosynthetic pigment content, proline, and catalase, peroxidase and ascorbate peroxidase enzyme, but not intercellular COY concentration. The highest values of stomatal conductance, photosynthesis rate, ranspiration rate, photosynthesis rate, transpiration rate,

کلمات کلیدی:

Nitrogen, Salicylic acid, Photosynthesis rate, Proline

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