

عنوان مقاله:

Physiological and biochemical responses of four genotypes of common bean (*Phaseolus vulgaris* L.) under salt stress

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خلاصه مقاله:

This investigation was conducted to determine the effects of salinity stress on some physiological and biochemical parameters of common bean (*Phaseolus vulgaris* L.). Three levels of NaCl (0, 100, and 200 mM) were applied to four common bean genotypes. In the subsequent steps, chlorophyll content, relative water content (RWC), electrolyte leakage index (ELI), Na⁺ and K⁺ concentrations, the K/Na ratio, malondialdehyde (MDA) content, total protein content, and proline concentration were determined and compared. Moreover, the activity of antioxidant enzymes catalase (CAT), ascorbate peroxidase (APX), polyphenol oxidase (PPO), and guaiacol peroxidase (GPX) were analyzed. Content of Chl a, Chl b and carotenoid decreased by increasing the intensity of salinity stress along with the SPAD value. RWC dropped and ELI incremented by augmenting salinity together with the K/Na ratio. The results revealed that MDA and proline concentrations significantly increased under the mentioned conditions. Activities of antioxidant defense enzymes were altered notably. Total protein content mitigated under salt stress. Jules and ۲۰۱ were detected as tolerant genotypes during this experiment.

کلمات کلیدی:

Proline, Carotenoid, Chlorophyll fluorescence, Oxidative stress, Antioxidative defense

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