

عنوان مقاله:

Impact of seed priming with different UV rays on morphological and physio-biochemical attributes of pea (*Pisum sativum* L.)

محل انتشار:

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خلاصه مقاله:

In order to investigate the effect of priming and UV stress on pea (*Pisum sativum* L. cv. Dorian), a pot experiment was conducted as factorial based on completely randomized design with ۲۲ treatments (۱۱ type of seed priming and ۲ UV stress conditions) and four replications at Razi University during ۲۰۱۴. The results showed that the impact of seed pre-treatment was significant on all traits studied. Also, effect of UV stress was significant on relative water content (RWC), maximum quantum yield of PSII, total chlorophyll (Chl total) content and hydrogen peroxide concentration (H_2O_2). Interaction between seed priming and UV stress was also significant ($p \leq 0.01$) for RWC, Chl total content and H_2O_2 concentration. Generally, the results indicated that UV stress has harmful effect on the pea plants. On the other hand, hydro-priming (HP) had a better effect on the morphological characteristics (stem length and fresh weight) and RWC, especially, under non-UV stress condition. But, HP for ۱۲ h + UV-AB for ۲ h and also HP for ۱۱ h + UV-AB for ۳ h showed the lowest Chl total content, maximum quantum yield of PSII, stem length and fresh weight of plant and also had the highest concentration of H_2O_2 . Therefore, these two pre-treatments have a negative impact on the pea plant and their use is not recommended for the pre-treatment of seeds in pea.

کلمات کلیدی:

Maximum quantum yield of PSII, Pea (*Pisum sativum* L.), Relative Water Content, Seed pre-treatment, Ultraviolet rays

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