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عنوان مقاله:

Photochemical activity of Phlomis tuberosa leaves under water stress

محل انتشار:

پنجمین کنگره بین المللی توسعه کشاورزی، منابع طبیعی، محیط زیست و گردشگری ایران (سال: 1400)

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نویسنده:

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خلاصه مقاله:

The effect of water availability on Phlomis tuberosa photochemical adjustments is still unclear. Regarding this, the objective of this study was to evaluate the effects of water stress (۴۰, ۶۰ and ۱۰۰% of the field capacity) on chlorophyll fluorescence of P. tuberosa leaves at different time intervals after drought. Using chlorophyll (Chl) a fluorescence transient (OJIP) measurements, it was indicated that the photosynthetic apparatus of P. tuberosa leaves was damaged at severe water stress, as indicated by a decrease in maximal efficiency of PSII photochemistry (Fv/Fm) and in performance index (PIabs) coupled with lower values of chlorophyll a content. In contrary, we founded that medicinal P. tuberosa plant adapted to mild water stress by having a large compatible solutes adjustment, and via improvement of carotenoids production. This increased tolerance was also achieved by higher ROS scavenging activity.

کلمات کلیدی:

performance index, photoinhibition, Phlomis tuberosa, water stress

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