

## عنوان مقاله:

Drought stress on electrolyte leakage,  $H_2O_2$  concentration, relative water and chlorophyll content and leaf area in *Carthamus tinctorius*L

## محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین‌المللی زیست‌شناسی ایران (سال: ۱۳۹۷)

تعداد صفحات اصل مقاله: ۱

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## خلاصه مقاله:

Water deficit is the most important abiotic limiting factor for plant growth and performance. Drought induces oxidative stress and improves oxygen free radicals such as hydrogen peroxide in plants. Reactive oxygen species combine with lipids and cause membrane injuries via lipid peroxidation. Membrane injuries affect selective permeability and electrolytes leak to the outside of the cell. In this research, safflower plants were irrigated up to ۱۰۰, ۸۰, ۶۰, ۴۰, ۲۰% field capacity after three leaves stage for ۱۴ days in a greenhouse based on complete randomized block design with three replications. For measuring water value needing for the pots, was used from the weighting method. Physiological parameters of plants were measured after plant harvesting. Results showed that drought stress had a significant effect on all traits. Electrolyte leakage and  $H_2O_2$  concentration enhanced in leaves and roots with increasing of stress levels, but RWC, chlorophyll a and b contents and leaf area reduced compared with the control. The highest electrolyte leakage,  $H_2O_2$  concentration in safflower plants observed under the irrigation regime of ۲۰% field capacity. Decreasing water potential in the severe stress of ۲۰% field capacity can induce osmotic stress, decrease chlorophyll content and by increasing membrane damages cause the death of safflower plants

## کلمات کلیدی:

Drought stress, Physiological characteristics, Safflower

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