

عنوان مقاله:

The Effect of Different Light Spectrum Ratios and Photosynthetic Photon Flux Density (PPFD) on Some Agronomic and Physiological Traits in *Artemisia annua* L

محل انتشار:

مجله گیاهان دارویی و محصولات فرعی، دوره 11، شماره 2 (سال: 1401)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Mahtab Namdaran Gooran - *Department of Plant Production and Genetics, Faculty of Science and Agricultural Engineering, Razi University, Kermanshah, Iran*

Saeid Jalali Honarmand - *Department of Plant Production and Genetics, Faculty of Science and Agricultural Engineering, Razi University, Kermanshah, Iran*

Danial Kahrizi - *Department of Plant Production and Genetics, Faculty of Science and Agricultural Engineering, Razi University, Kermanshah, Iran*

خلاصه مقاله:

In order to investigate the effect of the ratio of different light spectra on the growth and physiological traits of the medicinal plant *Artemisia annua* L., an experiment was conducted based on a randomized complete block design with three replications. Experimental treatments were six levels of different light wavelengths including control (base light: full spectrum), base light + ultraviolet spectrum, base light+blue light spectrum, base light + green light spectrum, base light + red light spectrum and base light + far-red light spectrum. The results showed that different light ratios influenced all the measured traits. Accordingly, the application of all light treatments significantly increased the dry weight of the *Artemisia* plant. Also, the light treatments had significant ($P \leq 0.01$) effects on plants height, contents of chlorophyll a and b, total chlorophyll, carotenoids and anthocyanin. The percentage and yield of plant essential oils were impressed significantly ($P \leq 0.01$) under the application of different light wavelengths. Although UV increased the content of the essential oil, it reduced the yield of the essential oil due to the reduction in the dry weight of plants. According to the results of this study, it can be concluded that a combination of base light with blue light can increase the biomass yield as well as percentage and yield of essential oils of *Artemisia*, compared to control.

کلمات کلیدی:

Artemisia, Full-spectrum, Light quality, Ultraviolet, Wavelength

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1833889>

