عنوان مقاله:

Changes in chlorophyll content and fluorescence indices and some physiological traits of wheat under the influence of paclobutrazol and growth-promoting bacteria at different levels of irrigation

محل انتشار:

مجله فرآیند و کارکرد گیاهی, دوره 11, شماره 47 (سال: 1401)

تعداد صفحات اصل مقاله: 19

نویسندگان:

رضا رحیمی - ۱- *Department of Agronomy, Karaj Branch, Islamic Azad University, Karaj, Iran*

فرزاد پاک نژاد - ۱- *Department of Agronomy, Karaj Branch, Islamic Azad University, Karaj, Iran*

مهدی صادقی شعاع - ۲- *Sugar Beet Seed Institute (SBSI), Agricultural Research, Education and Extension Organization (AREEO), Karaj, Iran*

محمد نبی ایلکایی - ۱- *Department of Agronomy, Karaj Branch, Islamic Azad University, Karaj, Iran*

مهدی رضایی - ۱- *Department of Agronomy, Karaj Branch, Islamic Azad University, Karaj, Iran*

خلاصه مقاله:

The use of growth-promoting bacteria increases vegetative growth, and with it, timely consumption with appropriate concentrations of growth retardant can play a role in the distribution of nutrients to the shoots and roots, and thus improve dehydration tolerance. For this purpose, in this study, the reaction of the new super wheat cultivar SHS۰۲۲ under the conditions of irrigation regime with the use of growth-promoting bacteria and the application of growth retardant paclobutrazol were investigated. This research was conducted as a factorial split plot in the form of a randomized complete block design with three replications in Qom and Hamedan in the ۲۰۱۸-۱۹ crop year. The first factor includes the amount of irrigation with three levels (irrigation at ۴۰% of available moisture discharge throughout the growing season (control), normal irrigation up to pollination stage and irrigation at ۶۰% available moisture discharge until seed maturity, irrigation at ۴۰% Moisture release available up to pollination stage and cessation of irrigation until the end of the growing season) and the second factor includes foliar application of paclobutrazol at three levels (۰, ۵۰ and ۱۰۰ ppm) and the third factor including growth-promoting bacteria at five levels (control, Mycobacterium, Azotobacter and Azospirillium and combination). According to the results of analysis of variance, the main effects on chlorophyll fluorescence parameters, flag leaf relative moisture content, flag leaf chlorophyll content and Rubisco activity were significant. According to the results of comparing the mean in the first level of irrigation regime, there was no significant difference between paclobutrazol levels, but in the second level of irrigation regime, the highest percentage of relative leaf moisture was obtained at a concentration of ۱۰۰ ppm paclobutrazol (۶۶.۲۳%), so that two levels Control and ۵۰ ppm were in a lower statistical group (۵۲.۹۵ and ۵۶.۶۳%, respectively), but in the third level of irrigation regime, the highest trait was obtained at a concentration of ۱۰۰ ppm paclobutrazol with ۵۵.۳۶% and The lowest was evident at the control level with ۳۸.۲۴%. The interaction effect of irrigation regime on paclobutrazol on Rubisco activity was significant so that in the first level of irrigation regime there was no significant difference between levels of paclobutrazol, but in the second and third levels of irrigation regime the highest amount of rubisco was ۱۰۰ ppm paclobutrazol. They belonged to ۳۷.۶۳ and ۲۹.۲۷ units, respectively, and the lowest amount of trait was in the

... control facto

کلمات کلیدی:

Wheat, Irrigation regimes, Paclobutrazole, Growth-promoting bacteria, Chlorophyll fluorescence parameters, Rubisco enzyme activity, رژیم های
آبیاری, پاکلوبوترازول, باکتری های محرک رشد, پارامترهای فلورسانس کلروفیل, فعالیت آنزیم روبیسکو

لینک ثابت مقاله در پایگاه سیویلیکا: