

عنوان مقاله:

Benzyl adenine is more effective than potassium silicate on decreasing the detrimental effects of heat stress in pepper
(*Capsicum annum* cv. PS۳۰۱)

محل انتشار:

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خلاصه مقاله:

ABSTRACT- Heat stress causes flower and fruit abscission in pepper. This study was conducted in the greenhouses of Isfahan University of Technology to evaluate the effect of foliar application of Benzyl adenine (BA) and potassium silicate (K_2SiO_3) under heat stress condition on bell pepper. Two factorial experiments based on completely randomized design with four concentrations of BA (0, 0.06, 0.6 and 6 ppm) and the second with two levels of K_2SiO_3 (0 and 5 mM) both in two temperature treatments (25 ± 2 (optimum) 35 ± 2 (high temperature)) with six replicates were conducted. The results of the study indicated that the use of BA (especially 6 ppm) promoted growth parameters and increased proline, phenol and antioxidant content. Also, application of BA 6 ppm improved cell membrane stability assessed via decreasing electrolyte leakage (EL) and also reduced flower abscission in bell pepper. BA at 6 ppm increased plant height, shoot and root dry weight, proline and total phenol, root fresh weight, potassium (K) concentration and decreased flower abscission. Antioxidant content increased with heat stress in all BA levels. Results of the study indicated that fresh and dry weight of root and K concentration increased with 5 mM K_2SiO_3 . Moreover, root fresh weight and K concentration and antioxidant content increased in 5 mM K_2SiO_3 under heat stress

کلمات کلیدی:

Antioxidant content, Proline, Phenol, Flower abscission

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