EFFECT OF KINETIN AND TRYPTOPHAN ON THE GROWTH AND FLOWERING OF TWO CULTIVARS OF DIANTHUS CHINENSIS

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Abstract: The experiment was conducted in lath house of the Department of Horticulture and Landscape Engineering, Al-Qasim Green University during the autumn season of 2021-2022 to study the effect of Kinetin and tryptophan on the growth and flowering of two Dianthus chinensis cultivars, the first cultivar, red, and the second, white. The plants were sprayed with the growth regulator Kinetin at concentrations (0, 40 and 80 mg.L\(^{-1}\)) and the amino acid tryptophan at concentrations (0, 50 and 100 mg.L\(^{-1}\)). The experiment was conducted as a factorial experiment in a split-plot design within a Randomized complete blocks design (RCBD) with three replicates. Where the cultivars represented the main factor and kinetin and tryptophan and their interactions represented the secondary factor. The data were analyzed using the Least Significant Difference (LSD) test at the 5% level, and the results showed the following: The white cultivar excelled in traits of the number of inflorescences 16.95, while the red cultivar excelled in traits of leaf area 1687.08 cm\(^2\). The treatment with the growth regulator kinetin (80 mg.L\(^{-1}\)) significantly excelled in most of the studied traits, the most important of which are: plant height 13.83 cm, number of branches 20.42 (branch plant\(^{-1}\)), chlorophyll content in leaves 69.29 spad, average leaf area 1693.98 cm\(^2\), flower diameter 36.82 mm, total number of florets 35.90 flower. plant\(^{-1}\), number of inflorescences 17.47 inflorescence plant\(^{-1}\). The effect of spraying with the amino acid tryptophan (150 mg.L\(^{-1}\)) was significant on some traits, including leaf area 1785.48 cm\(^2\), chlorophyll content in leaves 71.53 spad, number of inflorescences 18.64 inflorescence plant\(^{-1}\).

Key words: Kinetin, Tryptophan, Growth, Dianthus chinensis, Randomized complete blocks design (RCBD).

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