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INFLUENCE OF DIFFERENT LEVELS OF ETHEPHON ON THE GROWTH AND FLOWERING OF *EUPHORBIA PULCHERRIMA VAR.* 'FREEDOM RED' PLANT

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ABSTRACT

This study was carried out at the experimental farm of Horticultural Department, Faculty of Agriculture., Al-Azhar University, Nasr City, Cairo, Egypt, during the two successive seasons of 2014/2015 and 2015/2016. The effect of ethephon at different rates on *Euphorbia pulcherrima var.* 'Freedom Red' plant was studied to dwarf their height aiming to produce more compact potted plants. The maximum dwarfing was obtained with ethephon at 1000 ppm, which recorded average height of 22.95 and 23.95 cm/plant for November and December periods, respectively. Furthermore, applying plants with the same ethephon level gave the highest number of branches, followed by 500 ppm ethephon compared to the other concentrations or the untreated plants (control). The maximum leaves number was obtained with ethephon treatment of 500 ppm. All concentrations of ethephon delayed the first bract color timing, whereas ethephon treatments at 1000 ppm increased number of days until the first bract coloring more than other treatments of 300 or 500 ppm and the control. The biggest bracts canopy was observed in the control plants, since it recorded 57.61 cm/canopy. On the other hand, the higher level of ethephon (1000 ppm) led to the lowest bracts canopy.

Key words: bracts, growth retardants, *Euphorbia pulcherrima*, Ethephon.