# EFFECTS OF DIFFERENT LEVELS OF POTASSIUM ON THE GROWTH AND DEVELOPMENT OF *Cordyline fruticosa* VAR. 'PURPLE COMPACTA'



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# ABSTRACT

*Cordyline fruticosa* (Cordyline) is an ornamental shrub with attractive leaves and it is a popular foliage plant in the export markets. 'Purple compacta' is a striking variety of *Cordyline fruticosa* , Potassium plays an important role in enhancing crop quality. A shade house (50%) experiment was conducted to find out the effects of graded potassium levels on vegetative growth of cordyline (*Cordyline fruticosa* var. 'purple compacta') plants in the Crop Farm, Eastern University, Sri Lanka from January to April 2019. The experiment was arranged in a completely randomized design with twenty replications. Six treatments were defined viz. 0.0 (T1- Control), 0.5 (T2), 1.0 (T3), 1.5 (T4), 2.0 (T5) and 2.5 (T6) g potassium/plant/month (g/p/m). Muriate of potash (MOP) was used as a potassium source nitrogen (Urea) and Phosphorous (TSP) were applied at the recommended and fixed rates (0.5 g/plant/month and 0.5g/plant/month respectively). Recommended agronomic practices were followed uniformly for all treatments. Growth parameters viz. plant height, leaf area, plant biomass and leaf nitrogen content (SPAD) were measured at monthly interval. Results revealed that plants belong to T2 showed significantly ($p < 0.05$) better performance in the measured growth parameters viz. plant height, leaf area, plant biomass and leaf nitrogen content, while the lowest performance was observed in T5 at 3 months after transplanting. From these findings, it could be stated that potassium level of 0.5 g/p/m could be optimum for maximum growth of cordyline plants (*Cordyline fruticosa* var. 'purple compacta') under 50% shade level in Batticaloa district. A commercial scale evaluation is required to recommend these findings to floricultural industries.



**Keywords:** Cordyline, Leaf area, Leaf nitrogen content, Plant biomass

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