

PA-126

Effect of N, P and K Fertilizers Application on Growth, Yield and Mineral Nutrient Content in *Platycodon grandiflorum* for. *duplux*

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[Abstract]

This study was carried out to investigate the effects of nitrogen, phosphorus, potassium (three main macro elements of fertilizer) on growth, yield and mineral contents of *Platycodon grandiflorum* for. *duplux* and to obtain the basic data of the proper fertilizer application for increasing the yield of *P. grandiflorum* for. *duplux*. Plant height showed significantly good results in all fertilization treatments compared to non fertilizer group (the control, T0), and in particular, the highest was 85.7 cm in the complete group (T4). Chlorophyll content showed a high amount in the range of 20.7 to 23.8 against all fertilization treatment groups, except for non fertilizer (T0) and non nitrogen (T1). The fresh weight of roots were higher quantity than other fertilization treatments in the complete group 55.8 g (T4). The mineral nutrient content of Na, Mg, Cu and Al of the roots of *P. grandiflorum* for. *duplux* from T1 group showed the lowest amount compared to other groups. In addition, P from T2 group, Mn from T3 group and Ca, Fe, Zn from T4 group also exhibited the lowest mineral content compared to other groups respectively.

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