Effect of Different Shade Levels and Paclobutrazol on Growth and Flowering of Parrot Impatiens (*Impatiens niamniamensis*)

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This study was conducted with the aim of developing *Impatiens niamniamensis* (Parrot impatiens) as a dwarf attractive pot plant with more flowers. Stem cuttings consisting of three nodes were planted and kept for two weeks under a polythene propagator. They were gradually exposed to sunlight and then transferred to different shade levels (0%, 50%, 70%, and 80%). Each group of plants were subdivided into two parts, and one part was treated with 25 mL of 5 mg/L paclobutrazol in the sixth week. Plants that were exposed to 0% shade died within one week after planting. This treatment was not considered for further analysis. According to the results, the interaction effect of different shade levels and the application of paclobutrazol significantly affected on plant height ($P<0.0001$). But, it was not significant for internodal length ($P>0.05$). Chlorophyll fluorescence was lower in 70% shade level with the application of paclobutrazol. Furthermore, there was no significant difference in maximum quantum yield (Fv/Fm) ($P>0.05$), absorption in active reaction center (ABS/RC) ($P>0.05$), and trapped energy flux (ET_0/RC) ($P>0.05$) due to different shade levels and application of paclobutrazol. The number of flower buds were high in paclobutrazol-treated plants than that kept under 70% shade. There was a significant interaction effect of different shade levels and the application of paclobutrazol on the number of flower buds ($P <0.0001$). Color intensity of the flowers were different ($P <0.05$) while the length in not significantly different ($P>0.05$). There was a significant effect on the number of days taken to flowering among treatments ($P < 0.0001$). The 70% shade level and application of paclobutrazol can be recommended as the best treatment combination for both growth and flowering of *I. niamniamensis*.

Keywords: Floriculture, *Impatiens niamniamensis*, Paclobutrazol, Shade levels

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