



EFFICACY OF PACLOBUTRAZOL ON REDUCING PLANT HEIGHT OF *Crotalaria retusa* L. TO INTRODUCE AS A POTTED PLANT

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Abstract

Sri Lanka is a country with an outstanding biodiversity including a rich native flora. Some of these native plants have the potential to be introduced to the landscape industry as ornamental plants with minor improvements. *Crotalaria retusa* L. is one such plant with beautiful yellow colour flowers which attract butterflies in large numbers. However, architecture of the plant, mainly natural plant height narrows its suitability to be introduced as a potted ornamental plant. Paclobutrazol (PBZ), an efficient plant growth retardant which inhibits synthesis of sterols and gibberellins in plants resulting a reduced internodal growth, could be used successfully to develop dwarf plants. Hence, the objective of the present study was to identify the best PBZ level to produce dwarf potted plants and to determine the customer satisfaction for overall appearance of the treated plants. Four PBZ levels (3, 4, 5 and 6 mg/100 ml) were applied as a soil drench to seedlings. Control plants were treated similarly with distilled water. Complete Randomized Design (CRD) was used with 12 plant replicates. All plants treated with PBZ showed a reduced height compared to the control plants. Plant height and flower size were reduced with increasing PBZ concentrations. Significantly shorter internodal distances and heights were recorded in plants treated with 6 mg /100 ml PBZ. The highest dwarfness was observed in plants treated with 6 mg /100 ml PBZ but with no flowers. According to the customer satisfaction survey the customers were not satisfied with plants treated with the highest PBZ level as there were no colourful flowers and the plants were extremely dwarf. Highest preference was received from the customers for plants treated with 4 mg/100 ml PBZ level. Therefore, the present study confirmed that 4 mg/100 ml PBZ as the best level to develop dwarf ornamental potted plants of *C. retusa*.

Keywords: *Crotalaria retusa*, Dwarf plant, Native, Paclobutrazol, Potted plant