

**Title** Some physiological and biochemical changes under water stress in Patumma treated by paclobutrazol

**Author** Jarunee Jungklang, Khanokkhan Pongkeaw, Kobkiat Saengnil and Jumnon Uthaibutra

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#### **Abstract**

Some physiological and biochemical changes under water stress in Patumma (*Curcuma alismatifolia* cv. Chiang Mai Pink) treated by paclobutrazol were investigated. The concentrations of 0 and 1500 ppm paclobutrazol (the control and the treatment) were applied to the soils one time after 10-15 cm offshoots developing from the rhizome. Two weeks after that, water withholding was started for 40 days. Plant height and dry weight/plant, water content in soils, relative water content (RWC) in leaves, proline and malonyldialdehyde (MDA) contents in leaves were evaluated every 5 day for 40 days after water withholding. The result showed that the dry weight and the RWC were higher in Patumma treated with paclobutrazol than the control. However, plant height, proline and MDA contents were lower than the control. The results obtained from this study indicate that the growth of Patumma treated with 1500 ppm paclobutrazol is higher than the un-treated plant during water deficit. This higher growth might be the results of the reduction of proline and MDA contents.