

VEGETATIVE PROPAGATION OF *Artocarpus heterophyllus* USING NATURAL POLYMERS

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A study was conducted to investigate the effects of Chitosan and Hydrogel application on graft success of Jackfruit (*Artocarpus heterophyllus*) plants at Horticultural Crop Research and Development Institute, Gannoruwa, during January to June 2013. Variety Father Long was selected as the scion due to its low graft success, which is around 40%. A preliminary trial with five different concentrations of Chitosan and Hydrogel treatments were compared to conclude the best concentration of each for the

main study. Chitosan 20 mg/l concentration showed significantly higher seedling growth ($p < 0.05$), while 2 g/kg of soil Hydrogel was the optimum. In the main trial, 20 mg/l Chitosan and 2 g/kg of soil Hydrogel concentrations were the basic treatments in addition to Albert's solution. Sole Chitosan, sole Hydrogel, sole Albert's solution, Chitosan + Hydrogel, Chitosan + Albert's solution, Chitosan + Hydrogel + Albert's solution, and Hydrogel + Albert's solution were compared with an untreated control. Sole Chitosan and Chitosan + Hydrogel treatments showed 82 and 72% graft success, while other treatments showed a graft success of approximately 40%. Out of above two treatments, Chitosan alone at a concentration of 20 mg/l was the best due to high success rate and low cost of production. In comparison, Chitosan + Hydrogel was more suited to dry zone with its ability to retain more moisture.

Key words: Chitosan, Father long, Hydrogel, Jackfruit