

B-01: Seed dormancy breaking method for Thumbakarawila (*M. dioica*)

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Thumbakarawila is a wild relative of cultivated bittergourd (*M. charantia*). The plant produces small dark green fruits which are used as a vegetable. A number of seeds can be observed within a fruit. Seed is comparatively smaller than that of the cultivated bittergourd and has a very long dormancy period. In nature, occurrence of plants from seed is extremely rare. Plants usually grow from the underground tubers. No successful seed dormancy breaking treatment has been reported for seeds of this plant. The objective of this study was to develop a suitable method for germination of seeds of thumbakarawila.

Seeds were obtained from the Gene Bank, Plant Genetic Resources Centre, Gannoruwa. Different methods (GA₃ application, scarification, seed coat removal and heat treatment) were followed to break the dormancy of the seeds. From these methods, heat treatment (60°C for 2 h) was the best. Following heat treatment the seed germination was found to be around 30%. Growth hormones, scarification and seed coat removal were not effective for breaking the dormancy of the seeds.

Heat treatment is a useful method to break dormancy of thumbakarawila seeds. Dormancy of the seed is not due to hard seed coat.