B-36: Effect of solidifying agents on seedlings of *Dendrobium maccarthiae* Thw. grown under axenic conditions

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Dendrobium maccarthiae Thw. is an epiphyte belonging to the Orchidaceae family. Plants collected from the wild, in large numbers for local sales has depleted natural stocks.

Flowers of *D. maccarthiae* were self-pollinated by hand in the wild. Seed pods produced were used for establishing *in vitro* seedlings. This was done with the objective of producing plants which could be circulated to growers as well as reintroducing them to their natural habitats.

Mature seed pods were harvested, prior to dehiscence (10-12 weeks after pollination) and seeds cultured on a basal Knudson C medium supplemented with 2% sucrose 250 ml/l coconut water and 50g/l Banana pulp. Media was solidified with 2 different compounds i.e. Agar Agar amd Kithul (*Caryota urens*) flour, extracted from stems of mature trees. The same medium was used until rooting was observed. Once rooted, seedlings were transferred to a potting media of tile pieces, charcoal, sand and coir dust crushed into fine particles and mixed in a ratio of 1:1:1:2.

Seed germination took 3-4 weeks for both media. On germination seedlings in media with agar agar showed faster growth and were planted out in 16 weeks while those germinated in kithul flour took 20 weeks to reach the same size. However plants germinated in the former were softer and fleshier, leading to low survival rates of 45-50%. Plants germinated in the latter media were hardy and showed higher survival rates of 65-70% when transplanted to potting medium.

Kithul flour is relatively cheaper, making media preparation economical. Thus Kithul flour as a solidifying agent is more advantageous than agar agar.