



**P 02 The effect of substrate and water levels on growth performances of  
Cryptocoryne species (*C. wendtii* green) - An endemic and threatened aquatic plant**

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Hundreds of fascinating and attractive plants are grown in aquaria for beauty and to maintain the quality of water. In addition, aquatic plants provide food, shade, shelter and breeding places for many life forms including fish. The foliage of some aquatic plants, especially the *Cryptocoryne* species, provides surfaces to which suspended particles in water adhere. These types of aquatic plants clean the water in the aquarium. The aquatic plants of Sri Lanka have high export demand. *Cryptocoryne wendtii* green, the Sinhala name Athiudayan is a submerged aquatic plant. *Cryptocoryne* species plays a major role in aquatic plant export industry. The experiment was conducted to determine a cost effective culturing media with best water level and substrate composition-required for the aquaculture ponds and healthy, similar sized and same aged plants originated from same brooder plant and four treatments were used along triplicates. First experiment was conducted to evaluate the best water level (T1-0" , T2-1" , T3-3" ,and T4- 5" ) for growth of *C. wendtii* green and river sand (S) and compost (C), were used to prepare four different substrates (T1-SC=1:1,T2-SC=1:2,T3-SC=1:3,T4-SC=1:4). Growth parameters, environmental parameters and substrate nutritional compositions were evaluated. In water level evaluation T4 treatment (5 inches water level) showed the best growth in shoot height increase, root height increase, fresh weight, dry weight, mean number of leaves and leaf surface area. In second experiment, river sand to compost ratio, 1:3 (T3) and 1:4 (T4) showed significantly higher growth performances in all growth parameters mentioned above. T4 showed the highest nutritional composition. It can be concluded that the growth performance is influenced not only by the nutritional composition, but also the physical properties and the texture of the substrate.

**Keywords:** *Cryptocoryne wendtii*, water level, substrate