

EFFECT OF COCONUT WATER ON SHOOT MULTIPLICATION
RATE OF ANTHURIUM IN VITRO

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Use of locally available substances in micropropagation of anthuriums (Anthurium andreanum L.) requires to be experimented in order to reduce the production cost of plant propagules. Liquid endosperm of coconut (coconut water) consists with sugars, vitamins, amino acids, and growth hormones is a cheap and readily available substance in Sri Lanka.

Microplants regenerated using calli derived from spathe of anthurium (var. Pink) were established on Murashige and Skoog (MS) liquid medium with 3% sucrose. Effect of coconut water on shoot multiplication and interaction with BAP and 2,4 D were investigated. Treatment combinations of two levels of coconut water, five levels of BAP, and four levels of 2,4 D were used.

MS medium supplemented with coconut water (15% v/v) produced an average of three shoots/shoot/6 week, while MS medium alone showed no multiplication of shoots. The highest rate of six shoots/shoot/6 week, was achieved with 15% v/v coconut water + 0.6 mg/l BAP. Multiplication rate was reduced with the increase of 2,4 D concentration. Increase of shoot production at different BAP levels was inconsistent with different levels of 2,4 D and coconut water. However, low levels of BAP showed higher shoot production. Weight increase of roots was higher in 15% coconut water, than without coconut water regardless of BAP and 2,4 D.

Results showed that BAP can be completely replaced by 15% coconut water to achieve medium rate of multiplication in anthurium micropropagation. However, multiplication can be maximized with coconut water + BAP. Also 2,4 D can be avoided during the multiplication stage. Therefore, cost of production in propagation of anthuriums can be greatly reduced.