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Extraction of plant growth factors from *Cocos nucifera* (coconut) water

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Coconut is a versatile crop and it is of economic importance to Sri Lanka. The water in the mature fruit is not used for any important purpose in Sri Lanka. Coconut water is used as a tissue culture medium due to the presence of various growth factors. It contains lot of electrolytes, carbohydrates and amino acids and several plant growth hormones such as Auxins, Gibberellins occur naturally in coconut water. An Auxin called Indole Acetic Acid (IAA) is the most abundant plant hormone in coconut water. Extraction of plant hormones from fungal mycelia is well documented. By modification of the above methods, in the present study attempts have been made to isolate plant growth factor from coconut water. The growth factor was extracted from coconut water (2.0 L) using Ethyl acetate (10% v/v) and separated using preparative silica gel plates (20 × 05 cm, 0.5 mm Silica gel 60, Merck). The bands separated were scraped out and dissolved in absolute Ethanol (2.0 mL) and characterized using UV-visible spectrophotometer. The spectra were compared with those obtained for standard Indole acetic acid. Ten day old Bean hypocotyls were used to assay for the isolated hormone. Bean hypocotyls was immersed in varying concentration of the hormone extract (05, 10, 25 and 50 mg/L) and each treatment contained 5 replicates. The results were compared with those of Indole acetic acid treated samples. Percentage rooting, Number of roots and Total root length were measured after 14 days. All treatments showed considerable rooting after 14 days. Rooting in the hypocotyls treated with 5 mg/L of hormone extract recorded the highest root growth considering Number of roots and Total root length. It was significantly different from the other treatments. It can be conformed that hormones present in coconut water can be effectively extracted using the current method.

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