

C626830 : MAJOR BIOTECHNOLOGY

KEY WORD: *Rhizophora apiculata* / PROPAGATION / TISSUE CULTURE / HYPOCOTYL CUTTING / MANGROVE

SARUNYA NALUMPANG : PROPAGATION OF *Rhizophora apiculata* Blume. BY TISSUE CULTURE AND HYPOCOTYL CUTTING TECHNIQUES. THESIS ADVISOR : ASSIST. PROF. PIPAT PATANAPONPAIBOON, Ph.D. THESIS COADVISOR : ASSO. PROF. PRASARTPORN SMITAMANA, Ph.D. 90 pp. ISBN 974-634-954-6.

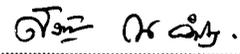
Shoot tips, nodes, embryos, hypocotyls and leaf discs from mangrove (*Rhizophora apiculata* Blume.) were cultured on the following media : Gauthere (1942), Hilderbrandt, Riker & Dauggar (1946), Heller (1953), Nitsch & Nitsch (1956) and Murashige & Skoog (1962) supplemented with various form of auxins (IAA, IBA, NAA, 2, 4-D) and cytokinins (BAP, kinetin) at 4 different concentrations (0, 2, 5 and 10 ppm.). All of the media used in the studies revealed the same results that rapid browning of the cultured tissues could be observed. No callus formation or further development of the tissues could be obtained. Though the adding of 0.5% PVP to the liquid MS medium, shook at 75 rpm on the rotary shaker and daily sub-culture could prolong the browning of the tissue which some development of the leaves from the shoot tip could be noticed, however, no real plantlet could be obtained.

Studies on the effects of auxins on the root and shoot promoting of the mangrove's seedlings were done by cutting the seedlings into 3 parts : top, middle and bottom. Each part were then dipped in either forms of auxins : IAA, IBA and NAA at the concentration of 500, 1,000, 2,000, 4,000 and 6,000 ppm. None auxin treated seedlings' parts were used as control group. The results showed that auxin at 2,000 ppm. could promote the better root development than other concentrations. The root enhancement of the top and bottom parts of the seedling were found when the IBA was applied, whereas the middle part of the seedling gave the better responded to IAA. Only IAA explicated the best action for the shoot development with the concentration of 2,000 ppm. on the top and bottom parts and 1,000 ppm. on the middle part. Furthermore, on the root development in the shoot derived from the cutting , IBA (500 ppm.) gave the best stimulation on the top part and IAA (1,000 ppm.) revealed the highest action to the middle and bottom parts of the seedlings.

ภาควิชา.....

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