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Propagation of *Hovenia dulcis* Thumb. through *In Vitro* Cultures

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Objectives

There are many studies those medicinal activities of *H. dulcis*. But there is nothing about propagation of *H. dulcis* through in vitro system except only study about somatic embryogenesis and plant regeneration of *H. dulcis*. Therefore, we have tried to make propagation of *H. dulcis* through *in vitro* culture system and successfully obtained many plantlets.

Materials and Methods

Plantlets of *H. dulcis* were obtained from germinated seeds. The plantlets were transferred to fresh basal MS medium, and then kept on 16/8h photoperiod, at 25°C. At different concentration (0.5, 1.0, 2.0, 5.0 and 10.0 mg l^{-1}), various cytokinins (BAP, Kinetin, TDZ) were tested to compare their effectiveness on multiple shoot, respectively. For discovered optimal medium, various media (1/4MS, 1/2MS, MS, 2MS, 4MS, B5, WPM, LS, SH, and White) were tested to compare their plantlet growth, respectively. At different concentration (0.5, 1.0, 2.0 and 5.0 mg l^{-1}), two-auxins (IAA and IBA) were tested to compare their root differentiation capability, respectively.

Results and Discussion

An efficient propagation of *H. dulcis* method through *in vitro* culture system was established. The *in vitro* plantlets of *H. dulcis* were obtained from matured seeds. For shoot multiplication, treatment of 2.0 mg l^{-1} BAP were induced highest number of multiple shoot. In growth of differentiated shoot, best result was obtained in treatment of 2.0 mg l^{-1} Kinetin followed treatment of 0.5 mg l^{-1} BAP, 0.5 mg l^{-1} Kinetin The optimal medium on shoot elongation was 2MS basal medium without growth regulators. In rooting experiments, treatment of 2.0 mg l^{-1} IAA was induced earliest rooting. Highest number of root and root growth were induced in treatment of 2.0 mg l^{-1} IAA. In generally, treatments of IAA were more effective than treatments of IBA on rooting. *In vitro* plantlets of *H. dulcis* were established in pot successfully.

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