P6

Micropropagation of *Albizzia coreana*, an Endangered Medicinal Tree, through High Frequency Shoot-bud Formation from Radicle Segments

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Objectives

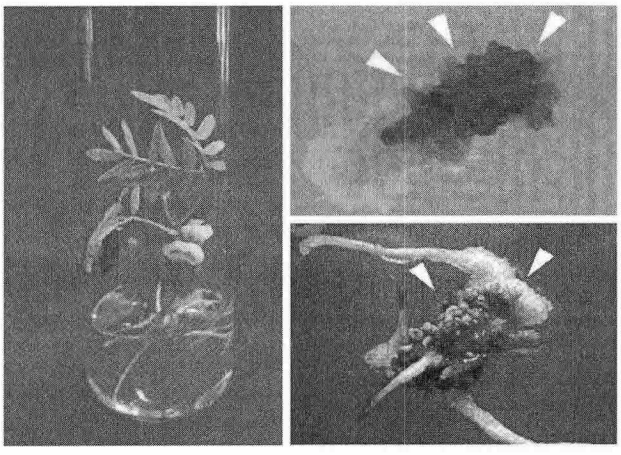
We have used radicle segments as explants and induced multiple shoots in *Albizzia coreana*, an endangered medicinal tree. The present study describes successful *in vitro* regeneration methods for this species.

Materials and Methods

1. Plant materials: Ten-day-old seedling of *Albizzia coreana*
2. Methods
   - Explant: i) Cotyledon (5×2 mm) , ii) Hypocotyls (5 mm), iii) First leaf (5×2 mm), iv) Radicle (5 mm)
   - Plant growth regulators: Thidiazuron 0-4.5 μM, 2, 4-D 0.5-9.0 $\mu M \cdot L^{-1}$, NAA 2.7-10.7 μM individually or combinations

Results and Discussion

In vitro regeneration of *Albizzia coreana* achieved through radicle segments of 10-day-old seedling. The explants were cultured on basal Gamborg's B5 medium and medium supplemented with N-phenyl-N'-1,2,3,-thidiazol-5-ylurea (Thidiazuron; TDZ) at the concentrations of 0.05-4.5 μM individually and in combinations with α-Naphthaleneacetic acid (NAA) and 2,4-Dichlorophenoxyacetic acid (2,4-D). After 3 weeks of culture, shoot-buds were induced directly from radicle segments in culture treated with TDZ, and it was observed under the light microscope for histological investigation. However other explants such as cotyledon, hypocotyl and leaf were not produced either shoot-bud or somatic embryo. Well developed shoots rooted at an average of 5 roots per shoot in Gamborg's B5 medium devoid of growth regulators. Those were morphologically confirmed as a normal. The results of the present study indicated that *Albizzia coreana* has a regeneration capacity from radicle segments and it could be stimulated by dosage of TDZ.



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