A new lignan from the stem bark of *Fagraea fragrans* Roxb.

Rattanaburi S., Kaikaew K., Watanapokasin R., Phongpaichit S., Mahabusarakamb W.

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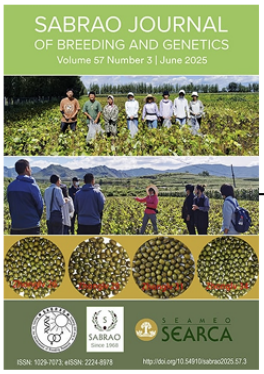

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MICROPROPAGATION OF TEMBESU (*FAGRAEA FRAGRANS* ROXB.) FROM SHOOT TIP AND NODAL EXPLANTS

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SUMMARY

The tembesu (*Fagraea fragrans*) has the highest ecological and economic values; however, its seedlings rarely exist in the field. The reason is the constraints of natural seed germination and an infrequent vegetative propagation of shoots. Therefore, artificial propagation efforts are essential, including through tissue culture propagation. The following study examined the use of 6-benzylaminopurine (BAP) for shoot proliferation from shoot tip and nodal explants and indole-3-butyric acid (IBA) for root induction from in vitro shoots of tembesu. The study comprised two stages—shoot multiplication and root induction. The stimulation of shoot multiplication consisted of five treatments, i.e., 0, 0.5, 1, 2, and 4 mg/L BAP. Root induction treatment used ½ MS media with the addition of IBA, consisting of four concentrations (0, 0.5, 1, and 2 mg/L IBA). Results showed the BAP treatment considerably enhanced the percentage of shoot formation and the number of shoots. The highest number of shoots surfaced in explants treated with 1 mg/L BAP, with 32 and 35 shoots from shoot tip and nodal explants, respectively. The best root induction occurred from in vitro shoot explants of tembesu on ½ MS medium containing 1 mg/L IBA, with an observed 100% root percentage and 7.6 root numbers.

Keywords: BAP (6-Benzylaminopurine), IBA (Indole-3-butyric acid), root induction, shoot tip and nodal explants, shoot proliferation, tembesu (*F. fragrans*)

Key findings: In tembesu (*F. fragrans*), shoot tips and nodal explants were explants with high shoot regeneration potential through 1 mg/L BAP treatment. The best root formation emerged using 1 mg/L IBA treatment in ½ MS media.

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