

The effectiveness of pre-soaking and alternative wetting and drying on germination of *Pterocarpus marsupium* seeds

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Abstract

Gammalu (*Pterocarpus marsupium* Roxb) belongs to Family - , is a multipurpose tree with pharmaceutical properties. Flowers, leaves and heartwood of this plant are used in treating diabetes, elephantiasis, leucoderma, diarrhoea, dysentery, rectalgia, cough and greyness of hair. As the natural regeneration capacity of the species is found to be poor, the present study assessed the effectiveness of pre-soaking and alternative wetting and drying on germination of *Pterocarpus marsupium* seeds. Seeds were pre-soaked in cold water for 6, 12, 18 and 24 hrs and placed on germination trays in the 1st experiment, while in the 2nd, 6 hrs wetting followed by 18 hrs drying, 12 hrs wetting followed by 12 hrs drying, 18 hrs wetting followed by 6 hrs drying, 24 hrs wetting were used as treatments. Seeds without any pre-treatment were considered as the controls and a completely randomized design was used with five replicates, each contained ten seeds. Germination percentage and time taken for seed germination were recorded daily for two weeks. Pre-soaking in cold water for 24 hrs had significantly ($P < 0.05$) higher cumulative mean percentage germination (CMG) of 70 % at 2 weeks after sowing. Further the germination percentage was found to be increased with the increasing pre-soaking period. Significantly ($P < 0.05$) higher CMG of 80 % was recorded from 18 hrs wetting followed by 6 hrs drying treatment which could thus be recommended as the effective means of enhancing germination of *Pterocarpus marsupium* seeds.

Key words: *Pterocarpus marsupium*, seed germination, alternative wetting and drying, pre-soaking