

## Development of cost effective propagation techniques for Rath Handun (*Pterocarpus santalinus*)

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Consumption of herbal medicine has been prominent in Sri Lanka over the years and consequently, some plant species are threatened due to over exploitation and habitat destruction. Rath Handun (*Pterocarpus santalinus*) is such a rare medicinal plant species, which has ready demand in the market. Since, little information is available on germination dynamics of seeds and vegetative means of propagation, no systematic cultivation of Rath Handun is practiced. Therefore, developing cost effective propagation techniques is urgently needed to conserve the species.

Both vegetative and seed propagation trials were conducted at the Faculty of Agriculture, University of Ruhuna for last four years. Possibility of using stem cuttings and air layering methods were tested mainly as vegetative means of propagation. Several pre-treatments including soak in normal water, acid and hormone treatments, scarification of seeds etc. were tested initially to assess the germination of Rath Handun seeds. As no treatment resulted higher germination percentage, alternative wetting and drying technique was tested thereafter.

Results of the experiments revealed that air layering could be considered as an effective means of propagation of Rath Handun. Whereas the rooting performances of stem cuttings were very poor, even after hormone treatments. For air layering, it takes 2.5- 3 months to initiate roots and under favourable climatic condition, healthy rooted shoots are gettable. However, it is primly important to plant them in suitable potting mixture and avoid environmental stress conditions in order to ensure high survival rate. Results of the germination trials revealed that, alternatively soaked in water for 12 hrs followed by 12 hrs of drying for 14 days could be considered as the most effective means of seed propagation of Rath Handun. However, the viability of seeds is lost within a very short period of time and thus use of fresh seeds for the propagation purposes is important. In order to maintain high survival rate of seedlings, it is advisable to use a potting mixture, which has high percentage of sand ensuring proper drainage. It could be concluded from the results that Rath Handun could be propagated by both seeds and vegetative means.