CONSERVATION AND PROPAGATION OF RED SANDERS (*Pterocarpus santalinus* LIN.)

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Red sandalwood (Red sanders) is an evergreen tree species grown under semi dry climates in well -drained lateritic soils, in nature .The reddish and fragrant heartwood has range of medicinal, pharmaceutical industrial and timber value and thus economically placed in the same range as tusk and amber. The red heartwood contains a range of constituents including santalin (santalic acid) santalol-pterocarpin, homo-pterocarpin and reported to have anti coagulant, anti-inflammatory, anti -expectorant, anti pyretic, anti bacterial and anti tumor properties. Expensive natural fabric paint is produced from the powdered heartwood. Heartwood is used in wood carving of prestigious nature. The natural habitats of red sanders in India (the major supplier) are extensively exploited to the point of near extinction thus placing it in the red list of endangered species under IUCN guidelines.

The local requirement of red sanders is met partly by Indian suppliers while substitutes with similar medicinal properties (Rath kihiriya) are also being used. The population size of red sanders in Sri Lanka is limited only to a handful of trees, which has raised from seedlings brought from India about 40-50 years ago, and established mainly in Matara District. As a result of an initial survey about 17 red sanders trees in bearing stage were identified and used as the stock of mother trees for the study. Some of the mother trees were found profusely bearing amount to hundreds id seeds. Yet there is no further increase in population size indicating a practical difficulty either in seed germination or in early seedling growth.

Seeds comprise of a very hard seed coat at the centre, which has differentiated in to a sickle shaped wing around the seed. The following seed treatment i.e. removal of seed coat, overnight soaking, chemical scarification of seed coat, GA treatment, alternate wetting and drying and stratification were tested. Alternate wetting and drying seems to be the most effective among treatments. The rate of germination is rather low owing to number of reasons. Alternate wetting and drying for a period of about 50 days with fully mature seeds collected under the tree can be recommended to enhance germination.

The use of stem cuttings and air layering with commercial hormone mixtures "Secto" and "Clonex" was tried with a view of establishing a protocol for vegetative propagation of red sanders. Air layering was practiced with hard and semi hard type shoots of the current season's flush. Successful root formation could be observed about 8-10 weeks after layering. Upon successful root formation, layers were cut off underneath the point of layering and carefully transferred to large polythene bags filled with a potting mixtures and kept in shade for further root growth. Use of semi hard wood type, 2 nodal stem cuttings with the same commercial hormonal preparations was also found effective in vegetative propagation of red sanders. Roots were robust and vigorous in air layers compared to stem cuttings, but the rate of manipulation is comparatively low.