This column covers information on the introduction of new plants, under-utilized plants and cultivation practices of plants suitable for wastelands and other regions. The information shall be contributed articles by authors or compiled by editors. Contribution of articles by plant growers with cultural practices, seed source and economics are solicited.

Cultivation of endemic Red Sanders for International trade

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Red Sandal Wood or Red Sanders, Pterocarpus santalinus Linn. f. (Hindi — Lalchandan, raktachandan) of family Fabaceae is an endemic and endangered, deciduous medium sized tree, up to 11m in height. The tree grows as a wild plant in Chittoor and Kadapa districts of Andhra Pradesh and found in some pockets of adjoining state of Tamil Nadu also. The area is characterised by hot dry climate with around 100 mm of rain in each of the two annual monsoons. The trees are found in the dry hill areas of Palakonda range of Eastern Ghats often on rocky ground and at altitude ranging from 150-900 m. It has a sister species Pterocarpus marsupium Roxb. that resembles the Red Sanders and medicinally used in various preparations.

The heartwood, useful part of plant is extremely hard, blood red in colour with occasional light yellow streaks. Leaflets 3, often 4-5, alternate, petiolate, the upper most larger in size. Flowers are yellow in axillary, branched racemes. The legume is roundish, long stalked, compressed concavely curved with a broad wing. Seed solitary. The plant can be easily located even from a distance because of its characteristic bark that looks like cobra skin.

The heartwood of the tree is good source of a red dye. In Europe Red Sanders extract has a long history of use as a red colourant for fish processing. More recently interest has been shown by the food industry to expand the range of applications. The wood possesses...
medicinal properties also. It is anticoagulant, improves local circulation and used for traumatic wounds, abrasions and bruises. The bark extract is reported to possess anti-hyperglycaemic activity. In Indigenous systems of medicine Red Sanders enter into the compositions of numerous astringent remedies used in complaints like bleeding piles, hemorrhages, dysentery, etc. Wood paste is applied externally as cooling agent, purifier of skin after bathing. The biogeochemical investigations of scientists revealed that the heartwood and leaves and soils in which these plants grow contain large quantity of rare elements, uranium and thorium which can further be exploited. Higher concentration of lanthanum (La), cerenium (Ce) were also observed in both the plants and soils.

Export potential

The tree is vanishing from its natural habitat due to uprooting and cutting of trees for illegal marketing. Export of Red Sanders from India to Europe commenced in the 17th century, primarily for textile dyeing. In the 1930s Japan commenced to import Indian Red Sanders for the manufacture of the traditional ‘Shamishen’ musical instrument and this market remains important today at a level of several hundred tonnes per annum. Demand by Japan for wavy grain quality timber resulted in significant illegal and destructive exploitation of the wild resources in 1950s and 1960s and controls were imposed on trading. However, major importers of Red Sanders from India are Japan, China and Western Europe.

Cultivation economics

As estimated by HFRC, 500 trees can be planted in a hectare and after 25 years minimum 500kg of heartwood/tree can be obtained. Thus one can expect 2,50,000 kg of wood from one hectare plantation. At an average market rate of Rs.75/kg an income of Rs.177.5 lakhs/ha ($ 375000/ha) is expected. The seedlings are available with HFRC at the rate of Rs 8/- each. However, selection of elite germplasm for the production of wavy grain timber and improved means of vegetative propagation is required.

In the export market, Japan pays fabulous prices for this wavy grained wood. Chips and powder of this wood are also exported to European countries for preserving natural colours of food-stuffs and dyeing purposes (http://www.agricultureinformation.com/indiaroom/html/tree_farming.html).