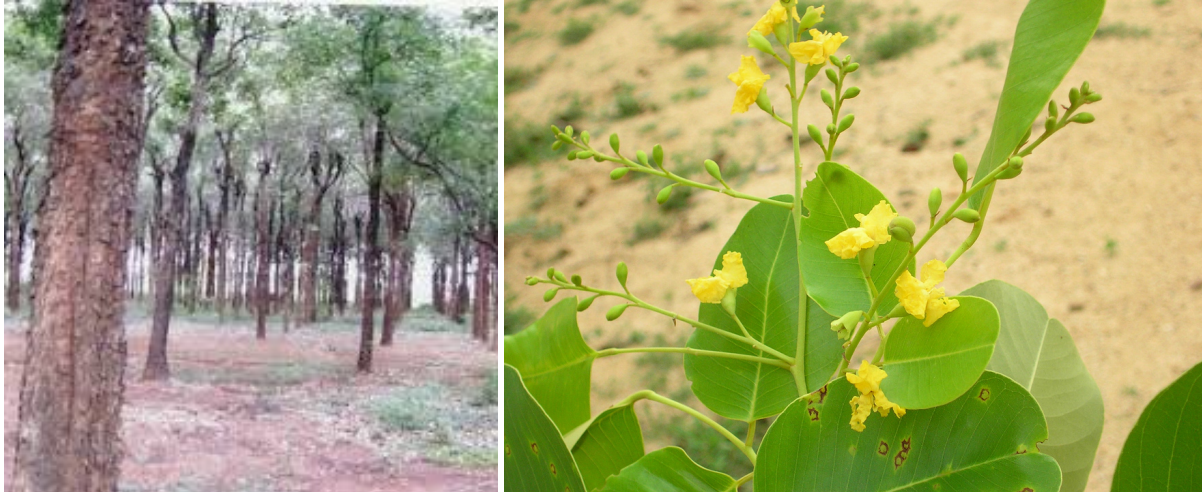




Agroforestry Facts Red sanders



Botanical Name	<i>Pterocarpus santalinus</i> L.f.
Name in English	Red sanders
Name in Kannada	Rakta chandana
Family	Fabaceae
Seeds Collection	Fruits are collected in March for the extraction of seeds.
Seeds Processing & Treatment	The seeds retain their viability for about one year under normal storage conditions and are the best propagation material. Seed treatment with GA3 (gibberellic acid) + BA (benzyladenine) @ 250 PPM (parts per million) helps in early and optimum germination. Alternatively, seeds can be soaked in cold water for 72 hours or in cow dung slurry for 72 hours
Nursery	Seedlings or stumps prepared from two-year-old nursery seedlings are used for planting in the field. March, April or May months are suitable for raising nursery from seeds. Mature and healthy pods are chosen to collect the seeds; these are sown in raised nursery beds. It takes 10–15 days for the germination to complete. Pretreated seeds (10–12 kg) are sown per bed (10 m × 1 m) of sandy loam or loamy soil in April and covered with a thin layer of soil or hay. After one year, stumps can be prepared, which are planted in polybags in February to March, to be utilized after four to five months as stump-sprouted seedlings. Propagule rate and pretreatment. About 1 kg seeds are needed to raise seedlings for 1 hectare of plantation. Seeds show only about 50%–60% germination and about 40% plant survival.
Plantation Management	Well-drained red soils with gravelled loam are suitable for the cultivation of lal chandan species. It regenerates well in dry hot climate and requires rainfall ranging from 800 mm to 1000 mm annually for good growth.



	<p>The land is ploughed and harrowed repeatedly and soil is brought to a fine tilth. Pits of size 45 cm × 45 cm × 45 cm are dug at a spacing of 4 m × 4 m. The pits are filled with topsoil mixed thoroughly with 10–15 kg FYM (farm yard manure) and 10 g lindane dust to protect the planting stock from soil-borne fungi. Transplanting and optimum spacing. The best time for planting the crop in the field is end of May to June, that is, onset of rainy season. Generally, the stump-raised seedlings or stumps obtained from two-year-old nursery plants are transplanted.</p> <p>About 10–15 kg FYM per plant per year and 150:100:100 g NPK (nitrogen, phosphorus, and potassium) per plant per year are required for at least five years. Fertilizer should be applied in 15–20-cm-deep circular trenches dug around the plant at a distance of 60 cm. Full dose of P and K along with one-third N should be applied at the end of February. The remaining N should be applied in two split doses during June–July and October–November. Application of inorganic fertilizers should always be followed by irrigation. Gap filling is done one month after planting. Weeding is done manually as and when necessary and particularly just before manuring. The soil around the basin is loosened frequently by hoeing.</p>
Model/Spacing	A plant population of about 600 per hectare is recommended with a spacing of 4 m × 4 m.
Pests, diseases and Management	Leaf-eating caterpillars have been found to damage the crop during April–May. These can be controlled by spraying 0.2% Monocrotophos twice at weekly intervals.
Plant Rotation	30 years
Yield	Pod yield from 15-year-old trees is 30 tonnes per hectare. Heartwood yield per tree after felling is 250 kg. Thus, 150 tonnes per hectare of heartwood is expected after 15–20 years.
Uses	<p>The wood at the center of the trunk (heartwood) is used as medicine. Red sandalwood is used for treating digestive tract problems, fluid retention, and coughs and for “blood purification.” Red sandalwood might increase the loss of body water through the urine (diuretic effect). It might also have drying effects that may help reduce diarrhea and break up mucus to make it easier to cough up. It is used in diseases like cough, vomiting, fever, hyperdipsia, helminthiasis, diseases of the blood and eye, wounds etc. The heartwood and fruits of Rakta chandana have great medicinal value. It reduces the burning sensation, arrests bleeding, alleviates edema and ameliorates various skin disorders, hence, is an effective external application as a paste, in burning sensation, headache, dermatomes and ophthalmopathies.</p>



	It's been extensively used in Ayurveda to treat fever, digestive problem, treating high blood pressure and lowering the Sugar level of diabetic patients.
Buyers /Industries	Carving industry and Pharmaceuticals
Harvesting	The fruits require almost 11 months to mature. Twenty- to twenty-five-year-old trees are used for the extraction of bark and wood. The bark may be extracted selectively by strip technique and the tree may be allowed to stand. The tree has to be felled for extraction of wood.
Economic Returns	50 Kgs per Tree gives up to 2.5 lakh/tree
Current Market Rate	1000- 5000 per Kg