



TIMBER SPECIES 34

Through its **Hardwoods Queensland** R D & E project, QFRI is finding solutions to plantation establishment, management and protection, wood quality and processing technologies for Australian hardwood timbers.

www.dpi.qld.gov.au/hardwoodsqli

SPECIES		Red mahogany	
Botanical names	<i>Eucalyptus resinifera</i> , <i>E. pellita</i>		
Family name	Myrtaceae		
Trade name	red mahogany		
Local names	red stringybark, red messmate (<i>E. resinifera</i>); red stringybark, Daintree stringybark, large-fruited red mahogany (<i>E. pellita</i>).		
TREE DESCRIPTION AND NATURAL OCCURRENCE	<p>A medium sized tree attaining a height of 40 to 45m and 1.0 to 1.5m in stem diameter. The bark is rough and persistent to the small branches, fibrous, shallowly to coarsely fissured. It is coloured greyish to reddish-brown (<i>E. resinifera</i>) and reddish-brown to brown (<i>E. pellita</i>).</p> <p><i>E. resinifera</i>: occurs from Jervis Bay in New South Wales to Coen in Queensland.</p> <p><i>E. pellita</i> occurs from just north of Townsville to Iron Range on Cape York Peninsula and scattered areas from Gladstone in Queensland to southern coastal New South Wales.</p>		
PLANTATION-GROWN TIMBER	Through its Hardwoods Queensland R&D project the Queensland Forestry Research Institute is defining plantation site suitability for a number of hardwood timber species. Early results suggest that future supplies of plantation-grown <i>E. pellita</i> will be available from northern Queensland on suitable soils and where the mean annual rainfall exceeds 900 mm.		
WOOD APPEARANCE	Colour	The heartwood ranges from red to dark red. Sapwood is distinctively paler.	
	Grain	Generally medium textured with even grain. At times the grain can be interlocked producing an attractive figure.	
Timber samples are available from QFRI, 80 Meiers Road, Indooroopilly, Brisbane, Qld 4068, Ph: 07 3896 9708			
PROPERTIES OF MATURE, NATURAL GROWN TIMBER	Air dry density	995 kgm ⁻³ at 12% moisture content; approximately 1.0 cubic metres of seasoned sawn timber per tonne.	*The density of 8.5 year old plantation-grown timber is 70% that of mature, natural grown timber
	Strength Group	S2 unseasoned, SD3 seasoned (<i>E. resinifera</i>); (S2) unseasoned, (SD3) seasoned (<i>E. pellita</i>).	
	Stress Grades	F11, F14, F17, F22 (unseasoned), F14, F17, F22, F27 (seasoned), when visually stress graded in accordance with AS 2082:2000, 'Visually stress-graded hardwood for structural purposes.'	
	Shrinkage to 12% MC	6.3% (tangential); 3.9%(radial). These values are for <i>E. resinifera</i> only.	*8.5 year old plantation-grown <i>E. pellita</i> ; 5.2% (tangential); 1.9% (radial).
	Unit Shrinkage	0.34% (tangential); 0.27% (radial). <i>E. resinifera</i> reconditioned after seasoning.	*8.5 year old plantation-grown <i>E. pellita</i> . 0.28% (tangential); 0.17% (radial).
	Durability	Class 2 - Highly resistant to decay when fully exposed to the weather, clear of the ground and well drained with free air circulation. Only moderately resistant to decay when used in the ground.	
	Lyctid Susceptibility	Untreated sapwood susceptible to lyctid borer attack. Timber should be sapwood free or chemically treated before sale in Queensland.	

*QFRI is currently assessing the wood properties of plantation-grown timber

	Preservation	Sapwood readily accepts preservative impregnation but penetration of heartwood is negligible using currently available commercial processes.
	Seasoning	Can be satisfactorily dried using conventional air and kiln seasoning methods.
	Hardness	Very hard (rated 1 on a 6 class scale) in relation to indentation and ease of working with hand tools. 12 kN (mature native) 4.9 kN (8.5 year old plantation timber)*
	Machining	Machines well.
	Fixing	No difficulty has been experienced with the use of standard fittings and fastenings.
	Gluing	As with most high density species machining and surface preparation should be done immediately before gluing.
	Finishing	Will readily accept paint, stain and polish.
	Engineering	As sawn and round timber in wharf and bridge construction, railway sleepers, cross arms, poles, piles, mining timbers.
	Construction	As sawn timber in general house framing, cladding, internal and external flooring, linings, joinery, fencing, landscaping, retaining walls.
	Decorative	Internal quality furniture, outdoor furniture, turnery.
	Others	Boat building (keel and framing components, planking), coach, vehicle and carriage building, agricultural machinery, structural plywood.
IDENTIFICATION FEATURES	GENERAL CHARACTERISTICS	
	Sapwood	Paler and distinct from heartwood.
	Heartwood	Generally deep red in colour but may be lighter in younger material.
	Texture	Uniform, coarse grain, often interlocked. An occasional tight gum vein.
	WOOD STRUCTURE	
	Growth Rings	Generally absent, but some specimens may tend to show vessels arranged in zones.
	Vessels	Medium size, solitary, distributed in a diffuse pattern. Vessel lines conspicuous on longitudinal surfaces. Contains frequent tyloses and dark-red gum deposits.
	Parenchyma	Variable in amount, not abundant; diffuse and paratracheal.
	Rays	Fine, visible only with a lens.
	OTHER FEATURES	
Burning Splinter Test	A match size splinter burns to charcoal without ash.	

For more information and publications about growing, processing and pests and diseases of Queensland hardwood timbers, visit www.dpi.qld.gov.au/hardwoodsqli or call the DPI call centre: 132 533

Further reading Ilic, J. 1991. CSIRO Atlas of Hardwoods. Crawford House Press.

Tree Talk, Inc 1994. Woods of the world Pro. CD Rom

Boland, D.J., Brooker, M.I.H., Chippendale, G.M., Hall, N., Hyland, B.P.M., Johnston, R.D., Kleinig, D.A. and Turner, J.D. (1984) Forest Trees of Australia. CSIRO, Australia.