



TIMBER SPECIES 14

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		Spotted gum																
Botanical name	<i>Corymbia citriodora</i> subsp. <i>variegata</i> , <i>C. citriodora</i> subsp. <i>citriodora</i> , <i>C. maculata</i> , <i>C. henryi</i>																	
Family name	Myrtaceae																	
Trade name	Spotted gum																	
Local names	Spotted gum, lemon-scented gum (<i>C. citriodora</i> subsp. <i>citriodora</i> only), spotted iron gum																	
TREE DESCRIPTION	On favourable sites, these species grow to 45 m in total height and 1.3 m in stem diameter, but attain only half these dimensions on poorer sites. They have straight slender trunks with smooth bark. This is shed in patches leaving slight depressions in the surface, which give a characteristic spotted appearance. Colour tones range from pink to grey-blue.																	
NATURAL OCCURRENCE	<i>Corymbia citriodora</i> subsp. <i>variegata</i> occurs mainly in the coastal areas of northern NSW and southern Queensland, but also in western areas of southern Queensland. <i>C. citriodora</i> subsp. <i>citriodora</i> – mid-north NSW coast to the Windsor Tableland, north Queensland. <i>C. maculata</i> - Bega (NSW) to mid-north NSW coast, and also a disjunct occurrence in eastern Victoria. <i>C. henryi</i> - northern New South Wales and southern Queensland.																	
PLANTATION-GROWN TIMBER	Sawn timber from these species has been readily available from native forests, and spotted gum is currently the highest volume native hardwood harvested in Queensland. 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 spotted gum will be available from most regions in central and southern Queensland on suitable soils and where the mean annual rainfall exceeds 600 mm.																	
WOOD APPEARANCE	Colour	The heartwood ranges from light brown through to dark red-brown. Sapwood is usually white in colour and up to 50 mm wide.																
	Grain	Moderately coarse textured and variable. Gum veins common. The presence of wavy grain can produce an attractive fiddle back figure.																
Timber samples are available from QFRI, 80 Meiers Road, Indooroopilly, Brisbane, Qld 4068, Ph: 07 3896 9708																		
PROPERTIES OF MATURE, NATURAL GROWN TIMBER *QFRI is currently assessing wood properties of plantation-grown timber.	Air dry density	1010 kg m ⁻³ at 12 % moisture content; approximately 1.0 m ³ of seasoned sawn timber per tonne.	*Plantation-grown timber: <i>C. citriodora</i> subsp. <i>variegata</i> aged 11 years: 87% mature timber density. <i>C. citriodora</i> subsp. <i>citriodora</i> aged 3 & 41 years: 71% & 108% mature timber density.															
	Strength group Stress grades	S2 unseasoned; SD2 seasoned. F11, F14, F17, F22 (unseasoned), F17, F22, F27, F34 (seasoned), when visually stress graded in accordance with AS 2082:2000, 'Visually stress-graded hardwood for structural purposes.'																
These values apply to <i>C. citriodora</i> subsp. <i>variegata</i>	Shrinkage to 12% MC Unit shrinkage	<table border="1"> <thead> <tr> <th></th> <th>Natural grown</th> <th>Plantation-grown (41 years)</th> </tr> </thead> <tbody> <tr> <td>tangential</td> <td>6.1%</td> <td>5.8%</td> </tr> <tr> <td>radial</td> <td>4.3%</td> <td>3.4%</td> </tr> <tr> <td>tangential</td> <td>0.4%</td> <td>0.4%</td> </tr> <tr> <td>radial</td> <td>0.3%</td> <td>0.3%</td> </tr> </tbody> </table>		Natural grown	Plantation-grown (41 years)	tangential	6.1%	5.8%	radial	4.3%	3.4%	tangential	0.4%	0.4%	radial	0.3%	0.3%	
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Durability	Class 2. Highly resistant to decay when fully exposed to weather, clear of the ground and well-drained with free air circulation. Moderately decay resistant in the ground.
Lyctid susceptibility	Untreated wood susceptible to lyctid borer attack.
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 resistance to indentation and ease of working with hand tools.
Machining	Machines well due to its natural greasiness.
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. Has lower tannin content than most other eucalypts, therefore staining of paintwork, brickwork etc., as a result of water running over unpainted timber surfaces, is less likely to occur.

USES

Engineering	As sawn or round timber in wharf and bridge construction, railway sleepers, cross-arms, poles, piles and mining timbers.
Construction	As unseasoned timber in general house framing and as seasoned dressed timber in cladding, internal and external flooring, linings and joinery. Also in fencing, landscaping, retaining walls and as structural plywood and hardboard.
Decorative	Internal fine furniture, outdoor furniture, turnery, joinery, parquetry.
Others	Tool handles, boat building (keel and framing components, planking, decking), coach, vehicle and carriage building, agricultural machinery, sporting goods (baseball bats, croquet mallets, spring and diving boards, parallel bars) and bent work. It has been used for butcher's blocks, meat skewers, mallet heads, ladder rungs, wheel spokes, wine casks and broom handles. Spotted gum is the main Australian species for tool handles subject to high impact forces e.g. axe handles.

IDENTIFICATION FEATURES

GENERAL CHARACTERISTICS

Sapwood	White in colour and distinct from heartwood.
Heartwood	Colour variable from light brown to dark red-brown often with lighter shades.
Texture	Open, often with interlocked grain; greasy to touch.

WOOD STRUCTURE

Growth rings	Absent.
Vessels	Small to moderately large, generally arranged in short radial multiples with few solitary. Vessel lines very prominent on dressed longitudinal surfaces. Tyloses abundant.
Parenchyma	Abundant, paratracheal (surrounding pores) and diffuse with a tendency to zonate arrangement.
Rays	Fine, visible in tangential section.

OTHER FEATURES	Burning splinter test	Splinter burns to a complete white ash.
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For more information and publications about growing, processing and pests and diseases of Queensland hardwood timbers, visit www.dpi.qld.gov.au/hardwoods_qld 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.