



TIMBER SPECIES 18

Through its R D projects, QFRI is finding solutions to plantation establishment, management and protection, wood quality and processing technologies for hardwood and softwood timbers.

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SPECIES	Black bean
Botanical Names	<i>Castanospermum australe</i>
Family Name	Leguminosae
Local Names	Moreton Bay bean, Moreton Bay chestnut, beantree
TREE DESCRIPTION AND OCCURRENCE	<p>A tall tree up to 40 m in height with a stem diameter to 1.2 m. The trunk is not prominently buttressed. The crown is very dense, consisting of abundant dark green glossy foliage. The large pendant bean like fruit are conspicuous in the crown. The bark is slightly rough with very small pustules and is coloured grey to brown.</p> <p>This species is scattered in rainforest regions from Lismore, New South Wales to Iron Range on Cape York Peninsula. It is also found in New Caledonia and Vanuatu.</p> <p>Sawn timber of this species is available from timber merchants handling rainforest timbers.</p>
WOOD APPEARANCE	<p>Colour. The heartwood ranges from dark brown to chocolate shades deepening almost to black; sometimes streaked with lighter coloured bands. The sapwood is white to yellow in colour.</p> <p>Grain. Porous and coarse grained, with striated vessel lines prominent on longitudinal surfaces. This effect is due to chalky grey soft tissue (parenchyma) surrounding the vessels.</p>
WOOD PROPERTIES	<p>Density. 755 kgm⁻³ at 12% moisture content; approximately 1.3 m³ of seasoned sawn timber per tonne.</p> <p>Strength Group. S4 unseasoned; (SD5) seasoned.</p> <p>Stress Grades. F7, F8, F11, F14 (unseasoned), F8, F11, F14 (seasoned), when visually stress graded in accordance with AS 2082:2000, 'Visually stress-graded hardwoods for structural purposes.'</p> <p>Shrinkage to 12% MC. 5.8% (tangential; 1.8% (radial).</p> <p>Unit Shrinkage. 0.40% (tangential); 0.16% (radial). These values apply to timber reconditioned after seasoning.</p> <p>Durability. Class 1 – Highly resistant to decay when in ground contact or in persistently damp or poorly ventilated situations.</p> <p>Lyctid Susceptibility. Untreated sapwood susceptible to lyctid borer attack.</p> <p>Preservation. Sapwood readily accepts preservative impregnation but penetration of heartwood is negligible using currently available commercial processes.</p> <p>Seasoning. Care is needed in seasoning this species as it shrinks irregularly and is prone to collapse.</p> <p>Hardness. Moderately hard (rated 3 on a 6 class scale) in relation to indentation and ease of working with hand tools.</p>

	<p>Machining. Machines and turns well to a smooth finish. The dry dust can cause nose and throat irritation to some people.</p> <p>Fixing. No difficulty has been experienced with the use of standard fittings and fastenings.</p> <p>Gluing. Can be satisfactorily bonded using standard procedures.</p> <p>Finishing. Staining is normally not necessary. It polishes well but because of the coarse texture, prior filling may be necessary.</p>
USES	<p>Engineering. Once used as sawn and round timber in bridge construction and as mining timbers.</p> <p>Construction. Once had limited use in general house framing and more commonly as flooring, lining, mouldings and joinery, but is rarely used for these applications now.</p> <p>Decorative. Plywood, furniture, shop and office fixtures, joinery, turnery, carving, inlay work, walking sticks, umbrella sticks.</p> <p>Others. Gun stocks, knife handles, vehicle and carriage building. It was popular for timber split fence posts during the early days of settlement in rainforest areas of the Atherton Tableland, where durable, easily split timbers were scarce.</p>
IDENTIFICATION FEATURES	<p>GENERAL CHARACTERISTICS</p> <p>Sapwood. White to yellow, distinct from heartwood.</p> <p>Heartwood. Dark brown to chocolate, sometimes with fine white streaks from vessel contents or more diffuse streaks due to soft tissue surrounding vessels.</p> <p>Texture. Coarse, with some figure.</p> <p>WOOD STRUCTURE</p> <p>Growth Rings. Absent.</p> <p>Vessels. Medium to large, in radial rows but with some solitary. Chalky white deposits in some vessels.</p> <p>Parenchyma. Abundant, aliform with some confluent.</p> <p>Rays. Visible without a lens.</p> <p>OTHER FEATURES</p> <p>Burning Splinter Test. A match size splinter produces a full white to buff coloured ash.</p> <p>Figure. Prominent figure caused mainly by the parenchyma associated with vessels.</p>

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.