Slash pine

Scientific name	*Pinus elliottii* var. *elliottii, P. elliottii* var. *densa*. Family: Pinaceae.
Local names	Florida pine, yellow pine (in S.E. United States).
Description and natural occurrence	A medium-sized tree attaining a height of 30-35 m and a stem diameter of 0.7 m. Branches usually large and spreading. Bark is grey to red-brown in colour, thick, rough, and deeply fissured. It is shed in small scales. Grown in plantations in the coastal regions of northern New South Wales to Rockhampton, Queensland. It is native to south-east United States of America from South Carolina to Florida and west to Louisiana. It was introduced into Queensland in the late 1920s.
Wood appearance	**Colour.** Heartwood is reddish-brown varying to shades of yellow. Sapwood is usually pale yellow to yellow. **Grain.** Generally straight. A pronounced difference in colour between earlywood and latewood results in a very distinctive figure when back sawn.
Wood properties	**Density.** 625 kg/m^3 at 12% moisture content; approximately 1.6 m^3 of seasoned sawn timber per tonne. **Strength groups.** *Pinus elliottii* var. *elliottii* S5 unseasoned; SD5 seasoned. *P. elliottii* var. *densa* (S5) unseasoned; (SD5) seasoned (brackets indicate provisional value). **Stress grades.** F4, F5, F7, F8, F11 (unseasoned), F7, F8, F11, F14, F17 (seasoned), when visually stress graded in accordance with AS 2858-2001, Timber - softwood - visually graded for structural purposes. **Joint groups.** J4 unseasoned; JD3 seasoned. **Shrinkage to 12% MC.** 4.8% (tangential); 3.0% (radial). **Unit shrinkage.** 0.29% (tangential); 0.20% (radial). These values apply to timber reconditioned after seasoning. **Durability above-ground.** Class 4 - life expectancy less than 7 years. **Durability in-ground.** Class 4 - life expectancy less than 5 years. **Lyctine susceptibility.** Sapwood is not susceptible to lyctid borer attack. **Termite resistance.** Resistant. **Preservation.** Immature plantation grown stems are almost entirely sapwood, which typically comprises more than 50% of the stem radius even in mature plantations. Sapwood readily accepts commercial preservative impregnation but the heartwood cannot be adequately treated using currently available commercial processes. **Seasoning.** To avoid distortion, framing sizes should be high temperature dried. Boards may be air-dried or kiln dried at conventional or high temperatures. **Hardness.** Firm (rated 4 on a 6 class scale) in relation to indentation and ease of working with hand tools. **Machining.** Sharp planer blades are needed when dressing to avoid compression of the softer earlywood and resultant ridged surfaces. **Fixing.** Nails tend to follow the growth rings due to deflection by latewood bands. Care may be needed with the use of standard fastening and fittings. Nailing guns give good results. **Gluing.** Differential glue absorption can occur between earlywood and latewood but this rarely causes problems. **Finishing.** Care is required in selecting timber for finishing applications and in preparation of surfaces for paint and varnish finishes due to the high resin content of some material and earlywood/latewood ridging of dressed timber.
Uses	**Engineering.** Preservative impregnated poles for pole frame construction, power poles, piles. **Construction.** General purpose softwood used as dressed seasoned timber in general house framing, flooring, lining, joinery, mouldings, laminated beams. Preservative impregnation for external cladding, decking, fascia and barge boards. Used preservative impregnated in seasoned sawn or round forms in fencing, pergolas, landscaping, retaining walls and playground equipment. Also used as structural plywood and as reconstituted panel products such as particleboard and medium density fibreboard.

	Decorative. Furniture, plywood, joinery, turning. **Others.** Scaffold planks, wood wool, paper products.
Identification features	**General characteristics** **Sapwood.** Pale yellow to yellow. **Heartwood.** Reddish-brown, varying to shades of yellow. **Texture.** Non-uniform, consisting of alternating bands of earlywood and latewood; transition from earlywood to latewood moderately abrupt. Grain straight. Knots usually present in constructional timber grades. **Wood structure** **Growth rings.** Prominent and clearly visible due to the latewood forming a dense, dark band. False annual rings occasionally present. **Vessels.** Absent. **Resin canals.** Numerous, prominent as lines on dressed longitudinal surfaces. **Rays.** Fine, visible with a lens. **Parenchyma.** Absent. **Other features** **Odour.** Wood generally has a strong resinous odour.
Further reading	Boland, DJ, Brooker, MIH, Chippendale, GM, Hall, N, Hyland, BPM, Johnston, RD, Kleinig, DA and Turner, JD 2006, 'Forest trees of Australia', 5th edn, CSIRO Publishing, Collingwood Australia. Bootle, K 2005, 'Wood in Australia: types, properties and uses', 2nd edn, McGraw-Hill, Sydney. Hopewell, G (ed.) 2006, 'Construction timbers in Queensland: properties and specifications for satisfactory performance of construction timbers in Queensland, Class 1 and Class 10 buildings', books 1 and 2, Department of Primary Industries and Fisheries, Brisbane. Ilic, J 1991, 'CSIRO atlas of hardwoods', Crawford House Press, Bathurst, Australia. Standards Australia, 2000, 'AS 2082-2000: Timber - hardwood - visually stress-graded for structural purposes', Standards Australia.