

BALSA

Ochroma pyramidale, commonly known as balsa, (also *O. lagopus*) is a species of flowering plant in the mallow family, Malvaceae. It is a large, fast-growing tree that can grow up to 30 m (100 ft) tall. Balsa trees are native from southern Brazil and Bolivia north to southern Mexico; however, Ecuador supplies 95 percent or more of commercial balsa. In recent years, about 60 percent of the balsa has been plantation grown in densely packed patches of 50 to 100 trees per hectare (compared to about two to three per hectare in nature). It is evergreen, or dry-season deciduous if the dry season is long, with large (30–50 cm/12–20 in) weakly palmately lobed leaves. Trees are classified as hardwood because of the shape of their leaves, so balsa, with its large, broad leaves is classified as hardwood despite being very soft. It is the softest commercial hardwood. The trees are harvested after 6 to 10 years of growth. The name balsa comes from the Spanish word for "raft."



Balsa lumber is very soft and light, with a coarse, open grain. The density of dry balsa wood ranges from 40–340 kg/m³ (2.5-21 lb/ft³), with a typical density of about 160 kg/m³ (10 lb/ft³).

The light weight of the wood derives from the fact that the tree has large cells that contain water. After the water is driven off in an extended drying process (kiln dried for 2 weeks), the large surface area of the resulting holes gives strength. Unlike dry rotted wood, the surface is made of the usual strong cellulose/lignin mix.

As it is low-density but high in strength, balsa is a very popular material to use when making light, stiff structures in model bridge tests and for the construction of model aircraft, as well as full-sized light wooden aeroplanes, most famously the World War II de Havilland Mosquito.

Balsa is used to make wooden crankbaits for fishing.

Balsa wood is often used as a core material in composites; for example, many wind turbines are made partially of balsa. In table tennis paddles, a balsa layer is typically sandwiched between two pieces of thin plywood. Balsa wood is also used in laminates with glass-reinforced plastic (fibreglass) for making high-quality balsa surfboards and the decks and topsides of many types of boats, especially pleasure craft under 30 m (100 ft) in length. In the floor pan of the Chevrolet Corvette Z06, balsa is sandwiched between two sheets of carbon fibre reinforced plastic.

Norwegian scientist/adventurer Thor Heyerdahl, convinced that early contact between the peoples of South America and Polynesia was possible, built the raft Kon Tiki from balsa logs, and upon it he and his crew sailed the Pacific Ocean from Peru to the Polynesian Tuamotu Archipelago in 1947.

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