Hymenaea courbaril
Family: Leguminosae
Courbaril

**Other Common Names:** Cuapinol, Guapinol (Mexico), Guapinol (Central America), Locust, Kawanari (Guyana), Rode lokus (Surinam), Algarrobo (Spanish America), Jatahy, Jatoba (Brazil).

**Distribution:** Southern Mexico, throughout Central America and the West Indies to northern Brazil, Bolivia, and Peru. The tree's best development is on ridges or slopes and high riverbanks.

**The Tree:** May grow to a height of 130 ft with trunk diameters of 5 to 6 ft; usually less than 100 ft high with diameters of 2 to 4 ft. Boles are well formed, often clear for 40 to 80 ft, and basally swollen or buttressed in large trees.

**The Wood:**
**General Characteristics:** Heartwood is salmon red to orange brown when fresh, becoming russet to reddish brown when seasoned; often marked with dark streaks. Sapwood is usually wide; white, gray, or pinkish. Texture is medium to rather coarse; grain mostly interlocked; golden luster; without distinctive odor or taste.

**Weight:** Basic specific gravity (ovendry weight/green volume) 0.71 to 0.82; air-dry density 52 to 61 pcf.

**Mechanical Properties:** (First set of data based on the 2-in. standard; the second on the 1-in. standard.)

<table>
<thead>
<tr>
<th>Moisture content (%)</th>
<th>Bending strength (Psi)</th>
<th>Modulus of elasticity (1,000 psi)</th>
<th>Maximum crushing strength (Psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green (74)</td>
<td>12,940</td>
<td>1,840</td>
<td>5,800</td>
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<tr>
<td>12%</td>
<td>19,400</td>
<td>2,160</td>
<td>9,510</td>
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<tr>
<td>12% (24)</td>
<td>25,100</td>
<td>2,870</td>
<td>14,200</td>
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</tbody>
</table>

Janka side hardness at 12% moisture content 2,350 to 3,290 lb. Forest Products Laboratory toughness average for green and dry material is 230 in.-lb (5/8-in. specimen).
**Drying and Shrinkage:** The wood is rated as slightly difficult to air-dry; it seasons at a fast to moderate rate with only slight checking and warp. Kiln schedule T3-C2 is suggested for 4/4 stock and T3-C1 for 8/4. Shrinkage green to ovendry: radial 4.5%; tangential 8.5%; volumetric 12.7%—values are low for a wood of this density.

**Working Properties:** The wood is moderately difficult to saw and machine largely because of its high density, but except in planing it can be machined to a smooth surface. The wood is somewhat difficult to plane because of the interlocked grain. It is easy to glue and finish satisfactorily; steam-bending properties comparable to white oak.

**Durability:** Laboratory evaluations rate the wood very resistant to brown-rot and white-rot fungi; actual field exposure trials also rate the wood as very durable. Heartwood is also rated very resistant to dry-wood termites; little resistance to marine borers.

**Preservation:** Heartwood is not treatable using open-tank or pressure-vacuum systems. Sapwood, however, is responsive.

**Uses:** Tool handles and other applications where good shock resistance is needed, steam-bent parts, flooring, turnery, furniture and cabinet work, railroad crossties tree-nails, gear cogs, wheel rims, and other specialty items. Tree exudes a rosin-like gum known commercially as South American copal. Seed pods contain an edible pulp.

**Additional Reading:** (24), (44), (46), (74)
