technology transfer fact sheet



Center for Wood Anatomy Research USDA Forest Service • Forest Products Laboratory • One Gifford Pinchot Drive • Madison, Wisconsin 53705–2398

Robinia pseudoacacia Family: Leguminosae Black Locust

Robinia is a genus of about 10 species native to eastern North America and Mexico. The genus *Robinia* is named for Jean Robin (1550-1629) and his son Vespasian Robin (1579-1662), herbalists to kings of France and first to cultivate locust in Europe.

Robinia kelseyi-Kelsey Locust

Robinia neomexicana-Locust, Mexican Locust, New Mexican Locust, New Mexican Robinia, New Mexico Locust, Southwestern Locust, Thorny Locust, Western Locust

Robinia pseudoacacia*- Acacia, Bastard Locust, Black Laurel, Black Locust, Common Locust, Common

Robinia, False Acacia, False Black Locust, Green Locust, Honey Locust, Locust, Peaflower Locust, Post Locust, Red Locust, Robinia, Shipmast Locust, White Locust, White Honey-flower, Yellow Locust

Robinia viscosa-Black Locust, Clammy-bark Locust, Clammy Locust, False Acacia, Honey Locust, Red Locust, Red-flowering Locust, Rose Acacia, Rose-flowering Locust

* commercial species

Distribution

Black Locust is native to the Appalachian Mountains from Pennsylvania to northern Georgia and Alabama and to the Ozark Mountains of southern Missouri, Arkansas and eastern Oklahoma. Also in southern Illinois and Indiana. It has been extensively naturalized in the United States and Canada.

The Tree

Black Locust reaches heights of 100 feet, with a diameter of 3 feet.

The Wood

General

The sapwood of Black Locust is a creamy white, while the heartwood varies from a greenish yellow to dark brown. It turns a reddish brown when exposed to the air. The wood is often confused with Osage Orange (*Maclura pomifera*). It has a high density and decay resistance. It shows slight shrinkage and stays in place well. It is very strong in bending and is one of the hardest woods in America. It's shock resistance is almost that of Hickory (*Carya* spp.).

Mechanical Properties (2-inch standard)

				Cor	npression			
	Specific gravity	MOE x10 ⁶ lbf/in ²	MOR lbf/in ²	Parallel lbf/in ²	Perpendicular lbf/in ²	WML ^a in-lbf/in ³	Hardness lbf	Shear lbf/in ²
Green	0.66	1.85	13,800	6,800	1,160	15.4	1,570	1,760
Dry	0.69	2.05	19,400	10,200	1,830	18.4	1,700	2,480
^a WML = Work to maximum load. Reference (98).								

Drying and Shrinkage

	Pere (green te	Percentage of shrinkage (green to final moisture content)				
Type of shrinkage	0% MC	6% MC	20% MC			
Tangential	7.2	5.8	2.4			
Radial	4.6	3.7	1.5			
Volumetric	10.2	8.2	3.4			
References: 0% MC (98 6% and 20% MC (90).	3),					

Kiln Drying Schedules^a

	Stock					
Condition	4/4, 5/4, 6/4	8/4	10/4	12/4	16/4	
Standard	T6-A3	T3-A1	-	_	_	
^a References (6, 86).						

Working Properties: It is difficult to work with hand tools, but turns well on a lathe and nails well. It has no distinctive odor or taste.

Durability: It is extremely durable.

Preservation: No information available at this time.

Uses: Fencing, insulator pins, furniture, mine timbers, treenails for ships. The trees are used in strip mine reclamation, due to their ability to survive the acid conditions and for their nitrogen fixing roots.

Toxicity: The bark is poisonous, and there are reports of dermatitis from the wood. (40, 64, & 105)

Additional Reading and References Cited (in parentheses)

6. Boone, R.S., C.J. Kozlik, P.J. Bois & E.M. Wengert. 1988. Dry kiln schedules for commercial woods - temperate and tropical. USDA Forest Service, FPL General Technical Report FPL-GTR-57. 20. Cuno, J.B. 1930. Utilization of black locust. USDA Circular No. 131. 3. Elias, T.S. 1980. The complete trees of North America, field guide and natural history. Van Nostrand Reinhold Co., New York, 948 pp. 40. Hausen, B. M. 1981. Wood Injurious to Human Health: A Manual. Walter deGruyter & Co., Berlin, Germany; New York, NY. 41. Hopp, H. 1942. Mystery among the locusts. American Forests. Jan.: 27-30. 55. Little, Jr., E.L. 1979. Checklist of United States trees (native and naturalized). USDA Forest Service, Ag. Handbook No. 541, USGPO, Washington, DC. 59. Markwardt, L.J. and T.R.C. Wilson. 1935. Strength and related properties of woods Forest Service, Tech. Bull. No. 479. USGPO, Washington, DC. grown in the United States. USDA 60. McAlister, R.H. 1971. Black locust. USDA Forest Service, American Woods - FS-244. 64. Mitchell, J.; Rook, A. 1979. Botanical Dermatology: Plants and Plant Products Injurious to the Skin. Greenglass Ltd., 691 W. 28th Ave., Vancouver, British Columbia, Canada V5H 2H4. 68. Panshin, A.J. and C. de Zeeuw. 1980. Textbook of Wood Technology, 4th Ed., McGraw-Hill Book Co., New York, 722 pp.

74. Record, S.J. and R.W. Hess. 1943. Timbers of the new world. Yale University Press,
82. Scheffer, T.C. 1949. Decay resistance of black locust heartwood. USDA Technical Bulletin No. 984.
86. Simpson, W.T. 1991. Dry kiln operator's manual. USDA Forest Service, FPL Ag.
90. Summitt, R. and A. Sliker. 1980. CRC handbook of materials science. Volume 4,
98. USDA Forest Service, FPL 1974. Wood handbook: wood as an engineering material.
99. Summittial Service, FPL 1974. Wood handbook: wood as an engineering material.

pp.
98. USDA Forest Service, FPL. 1974. Wood handbook: wood as an engineering material.
104. Wollerman, E.H. 1962. The locust borer. USDA Forest Service, Forest Pest Leaflet
105. Woods, B.; Calnan, C. D. 1976. Toxic Woods. British Journal of Dermatology;
95(13):1-97 Published by Blackwell Scientific Publications, Oxford, England OX2 OEL.