A Few Interesting Tables For Woodworkers From an Older Engineering Handbook.

When I worked for the Defense Logistics Agency (which supplies consumable items to U.S. armed forces, NASA, and other government agencies) we often had to try and support aging weapons systems demand for replacement parts which were no longer available. Many had outdated specifications, materials, or manufacturing processes. For example, one time an Army Reserve outfit wanted to order steam bent wooden bows for canvas tops for trailers no longer in production. After reviewing the specifications and searching for potential suppliers, we found only two U.S. businesses that could supply these items. Finding suppliers willing and able to do this for small to intermediate order quantities was nearly always far quicker and more cost efficient than re-engineering an item and qualifying it for acceptance. In many ways it was like finding replacement parts for a rare antique automobile, and like automotive (or other) restoration specialists, I really came to appreciate the value of old texts and manuals pertinent to the subject. Therefore I have collected some older engineering handbooks through the years. Now I am a woodworker (or at least that is my hobby now that I am retired) and I find myself occasionally referencing the section on wood products, and of course the older manuals have more to say on wood materials than the newer texts.

Recently I found a few tables in the "Engineering Materials Handbook" edited by Charles Mantell, Ph.D. published by McGraw Hill Book Company; 1958 which may be of general use for us and have reproduced them here. The first is a table of relative decay resistance for heartwood of various wood species:

Table 29-1: Decay Resistance of the Heartwood For Some Common Woods

Class 1: very Durable	Class2: Intermediate	Class#: Nondurable
Cedars	Douglas Fir	**Ashes**
Cypress, southern	Larch, western	Aspens
Junipers	Mahogany, American	Basswood
Locust, black	Oak, chestnut	Beech
Mulberry, red	Oak, white	Birches
Osage, orange	Pine, eastern, white	Firs, true
Redwood	**Pine, lodgepole**	Hemlocks
Teak	Pine, southern, yellow	Hickories
Walnut, black	Sassafras	Maples
Yew	Sweetgum	Oak, red
	Tamarack	Pine, ponderosa
		Poplar, yellow
		Spruces

The above table is probably most useful for choosing wood to be used in outdoor construction. Another table within the same handbook provides recommended moisture content (%weight of oven dry wood) for 3 different areas of the country:

Use of Lumber	Dry (U.S. Southwest)	Damp (Southern Coastal States)	Remainder of U.S States
Interior finish woodwork and softwood flooring	4-9%	8-13%	5-10%
Hardwood Flooring	5-8%	9-12%	6-9%
Siding, exterior trim, sheathing and framing	7-12%	9-14%	9-14%

This data may be usefully kept in a notebook if (like many of us) you are engaged in a variety of wood construction projects, home remodeling, or repair. My guess id it is still valuable despite the age of the source handbook. Let us know if you find major discrepancies with other sources.

Ken Urtel