Shopsmith Woodworking Academy Notes

***Hardwood Information You Should Know* — PART 3 of 4**

Thus far in the first two installments of our series on hardwoods, we've discussed poplar, hard maple, cherry and red oak. In this edition, we've selected two more species to examine – white ash and white oak.

White Ash – genus: *Fraxinus* —— principal lumber species: *americana*

There are several species of ash trees that grow in northern countries. The three common species in North America are: ***Black Ash*** (Northern U.S. and Southern Canada – ***Green Ash*** and ***White Ash,*** (both found in the Eastern and Midwestern U.S.).

Ash wood is very distinguishable from that of most other trees. The rapid outburst of the large leaves in late Spring requires that the tree have many large pores to carry a greater-than-normal amount of sap to its stem. These pores stand out on every cross-section and appear as noticeable lines on radial cuts...and as broad, irregular bands on cross-grain cuts. Ash is always ring-porous.

Following the rapid Spring growth, the wood becomes very strong, hard, dense Summer-wood. The faster the tree grows, the harder the wood becomes and the greater its value. This strength makes ash the perfect wood for the handles of tools such as hammers, shovels, axes, mallets and garden implements. In years past, ash was used extensively for making weapons such as spears, crossbows and arrows. Today, sporting goods manufacturers make god use of the strength and smooth surface of ash wood for baseball bats, hockey sticks, tennis racquets, snowshoes and even skis.

Ash is also quite popular with furniture-makers...being featured in older type Colonial furniture...sometimes as slats for chair backs. It can also be easily steamed and bent into curved shapes. Once dried, it sets into its newly formed shape and won't spring back .

White Oak – genus: *Quercus* —— principal lumber species: *alba*

White oak is the leading North American species. Although it grows very slowly, even with all the clearing of land for farming and housing, oak remains a major source of timber in the U.S.

Oak lumber has some very distinguishable features that make it easy to identify. Like ash, it is ring-porous with large, circular pores that make the softer, less-dense springwood of the annual rings stand out clearly. The pores of white oak show deep lines on the longitudinal surfaces of the wood.

The tannins in oak make its heartwood extremely durable for outdoor use. However, it does have a tendency to react with iron, which will cause ink-like stains to appear. These stains are usually overlooked in rustic outdoor work. For this reason, when using oak for indoor, ornamental construction, it should always be secured with wooden pegs, brass hardware or other metals containing no iron.

Thanks to its reputation for strength and durability, for many years, oak was a standard building material in the United States. Today, technology has replaced oak with various metals, concrete, plastics and composites...but none of these materials can replace the beauty and value of fine oak construction.

Through the years, oak has been used for everything from bridge building to dock and harbor construction to pulp for paper-making, ship-building timbers and deck planking. When properly stored and prepared, oak can last for centuries. Coopers used oak for barrels...and to this day, oak is still used extensively for aging, wines, sherrys and whiskeys.

Handmade *Mission* or *Craftsman*-style furniture such as dressers, chests and chairs were typically made from quarter-sawn white oak and have survived from the early days to become highly valued for their simple designs and craftsmanship.

Trends and fashions come and go...but, based on its past performance and proven value, Oak always returns to popularity.

OPERATION	MACHINING QUALITY	WHITE ASH	WHITE OAK
Turning	good to excellent pieces	79%	85%
Planing	perfect pieces	75%	87%
Boring	good to excellent pieces	94%	95%
Shaping	good to excellent pieces	55%	35%
Mortising	good to excellent pieces	58%	99%
Sanding	good to excellent pieces	75%	83%
Steam Bending	unbroken pieces	67%	91%
Nail Splitting	pieces free from complete splits	65%	69%
Screw Splitting	pieces free from complete splits	71%	74%

Coming up in the January/February issue — PART FOUR