



Sassafras

Fragrant wood that works sweetly, too

by Jon Arno

I've known about sassafras since my childhood, growing up in the wooded hills of south-central Michigan. In fact, one of my earliest memories is of helping my uncle collect the roots of sassafras shrubs for making tea. He loved his sassafras tea, and it was a taste I soon acquired. He also taught me to pick the tender young leaves and chew them as a thirst quencher while we foraged in the woods for mushrooms and other late-spring delicacies. It was not until much later, though, that I discovered sassafras was more than a shrub, that it would grow big enough to be a timber tree down in the southern part of its native range from Virginia to Arkansas (see the photo at left). Although not common, examples of this species that approach 100 ft. tall and 4 ft. dia. do exist.

From beverage to cooperage

Sassafras is a member of the laurel family, Lauraceae. There are only three species in the Sassafras genus: One grows in central China and another in Taiwan, but only our native species, *S. albidum*, is of commercial significance. Like other members of the laurel family such as cinnamon, bay and camphor, sassafras produces a natural oil, which has a fragrant, spicy odor. When the first explorers arrived along the East Coast of what is now the United States, they were quick to recognize the commercial potential of sassafras, and ship-

Sassafras is easily identified—its leaves take three distinct shapes (boat-shaped, mitten-shaped and three-lobed), often on the same tree. In winter, it's recognizable for its branches, which grow nearly perpendicular from the trunk. Little more than a shrub in northern states, sassafras is a respectable timber tree farther south in its native range.

loads of the root bark were taken back to Europe. Sassafras tea, known as saloop in the tea houses of 17th-century London, ranked in popularity with coffee, true tea and cocoa until some now nameless physician announced that it was a reliable cure for venereal disease. At that point, the consumption of sassafras tea, at least in public, sort of dried up.

Although the oil distilled from sassafras bark has remained an important commodity for scenting soap and flavoring foods and medicines, the wood has never enjoyed much popularity in its own right. Most sassafras lumber comes to market mixed with other general-purpose hardwoods (formerly with chestnut and nowadays usually with black ash, *Fraxinus nigra*) and is used for applications such as pallets, loose cooperage and crating.

In appearance, sassafras and black ash have much in common. Like black ash, sassafras is ring-porous and open-grained, with an attractive figure and grayish tan color (see the bottom photos). With an average specific gravity of 0.42 (oven dry weight/green volume), sassafras is only slightly softer and lighter than black ash (0.45), but it is much weaker and less elastic. While black ash is excellent for bending, sassafras is exceptionally brittle. In fact, its modulus of elasticity is actually lower than that of basswood, which is otherwise our weakest commercially available, native hardwood. On the basis of strength, sassafras is vastly inferior to black ash and only borderline acceptable for use in light-duty furniture applications. Also, it tends to split easily, a frailty it shares to some extent with black ash and even more so with its companion, chestnut.

I discover sassafras

Over the years, I've shied away from sassafras because of its weakness. But several



Sassafras is a pleasure to work—It's soft, cuts cleanly and has a tangy aroma. It dents easily, though, and is brittle, so it's probably for the best that this handsome sassafras stepstool made by Kelly Mehler always has been used as a plant stand.

summers ago, I needed a substitute for chestnut to make some reproduction clock cases and happened to come across some unusually wide and attractively figured pieces of sassafras for only \$1.50 per bd. ft. The color of the sassafras was a little closer to that of chestnut than the black ash I had on hand, so I elected to buy it and experiment with it. The clock cases turned out beautifully, and the sassafras was such a joy to work with that I became hooked on it.

Although not as pungent as the aroma given off by a steaming cup of sassafras tea, the faint scent produced when the wood is sanded is equally spicy and pleasant. Because sassafras is so brittle, sharp blades cut through it, leaving crisp edges. In contrast, ash tends to fray when cross-cut, leaving a fine ridge of splinters where the blade exits. And sassafras virtually

powders as it comes in contact with high-speed router bits, while ash requires a steady rate of feed or it quickly burns. Also, sassafras has a natural surface luster, so 220-grit sandpaper leaves the wood with a warm reflective glow that you would expect to achieve on most woods only after a coat or two of wax.

The sound of sassafras

Ever since that first experience with sassafras, my desire to work with it has left me searching for appropriate projects. Because of its great weathering properties and buoyancy, it has been used to some extent in boatbuilding and for other exterior applications such as fence building. But these pursuits have never been high on my menu of interests. After racking my brain and ransacking my library of project books for ideas, I finally decided to try it as a

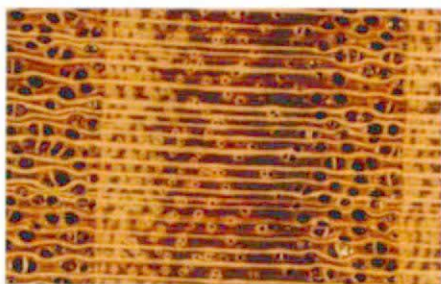


Photo © Bruce Headley

Sassafras or black ash? The strong figure and tawny color of raw sassafras (below right) recall black ash. Darker pieces of sassafras deepen to a cinnamon brown when finished (above right). Sassafras' pronounced grain pattern is due to its ring-porous cell structure, as shown above in the macrograph of its end grain.





Sassafras that sings—For this Kentucky-style dulcimer in solid sassafras, Jon Arno used an indigenous wood to build an indigenous instrument. He thinks the wood's brittleness may be responsible for the bell-like tone the dulcimer produces.

soundboard wood in musical instruments. Bingo! The dulcimers I've made with it (see the photo at left) generate a bell-like tone that puts all my previous walnut, ash and cherry dulcimers to shame.

I can't offer a verified, scientific explanation why sassafras possesses such pleasant tonal qualities, but my personal theory is that it is due to the wood's brittleness. Even when cut into soundboards that are less than $\frac{1}{8}$ in. thick, the wood is rigid and adamantly opposed to absorbing shock; this must translate the vibration of the strings into sound waves with much greater fidelity.

Sassafras has another attribute that is highly beneficial in dulcimer making: It undergoes little seasonal movement. This will appeal as well to anyone making other things to precise tolerances—drawers, jewelry box lids, cabinet doors. When it's compared to other domestic woods commonly used in instrument-making, sassafras performs well in this regard. With an

average volumetric shrinkage of only 10.3%, fluctuations in humidity produce less in-use movement in sassafras than in most other woods. Also, as indicated by the ratio between its tangential and radial shrinkage ($T/R=1.55$), sassafras develops low drying stress and is not particularly prone to warping. Walnut, with a T/R ratio of only 1.42, is slightly superior in this department, but its 20% greater volumetric shrinkage offsets the advantage. Furthermore, walnut's renowned ability to absorb shock, while an advantage in gunstocks, leaves it with rather limp tonal qualities. In this musical application, sassafras is hard to beat. Of course, some of the softwoods, such as spruce, western red cedar and redwood are more recognized for their tonal qualities, but among our domestic hardwoods, sassafras might well be the best there is.

Jon Arno sells and studies wood in Troy, Mich.

Working with sassafras

by George K. Rome

Since I first encountered sassafras a few years ago, I've used close to 1,000 bd. ft. of it for bookcases, kitchen cabinets, wet bars, toolboxes and jewelry boxes. It's delightful to work and versatile but with peculiarities and limitations as well as assets.

Being ring-porous, sassafras has a lot of figure. It takes stain well, and the grain pattern is close enough to red oak to pass as the same wood when stained. I've also pickled it pink and white, and it colors better than oak but tends to turn yellow far faster.

Unstained sassafras will turn a dark shade of brown when exposed to sunlight for a month or so, especially when it's been finished with shellac. The toolboxes I've made for trim carpenters, which get real exposure to the elements, turn a striking brown with a silvery greenish cast that is almost iridescent.

I get sassafras from Paxton Lumber (7455 Dawson Road, Cincinnati, Ohio 45243; 800-325-9800) where it's available only in $\frac{3}{4}$ thickness. Rough sassafras boards tend to be extremely straight and flat with little internal tension. End checks are extremely common, though, and it's not unusual to lose a good foot off each end of a 10-ft. board. Several times, I've found hairline

checks running the length of a raised panel after applying stain. The checks were totally invisible before the stain hit—I swear!

Aside from the checking problems, sassafras is a dream to work. It sands like balsa and cuts almost as easily. Unlike pine and poplar, it doesn't tend to clog sanding belts, but it plays hell with sanding drums on my drill press. It cuts beautifully on the table-saw, where the wood's softness and lack of internal stress make for cuts that require little cleanup. It seldom burns, but its sawdust is so fine that it's as slippery as medium-density-fiberboard dust when it covers the concrete floor of my shop.

Sassafras gets dented easily by everything from normal clamp pressure to dried glue on the workbench. But a rub with a washcloth dipped in warm water followed by a pass with an iron at the cotton setting will remove most dents. Because of its softness, it's not a wise choice for use as base moldings or counter-top edges. But because red oak will stain the same color, I often use oak for the parts of a piece that will receive the most wear.

I've worked with many domestic and exotic woods, and for my money, the only one that's as pleasant and easy to work as sassafras (aside from an occasional piece of mahogany) is black walnut. And we all know if the good Lord made a wood that was nicer to work than black walnut, he kept it for himself.

George Rome, former owner of furniture manufacturing companies in Taiwan and China, lives in Louisville, Ky.