



Orchard Woods

Jewel-like boards take effort to prepare but are worth the trouble

by Jon Arno

We were driving along a rural road near Traverse City, Mich., four teen-age boys in a new, 1957 Pontiac station wagon, on our way home from a camping trip. Cherry trees peppered the rolling landscape, and along the side of the road were scattered piles of orchard trimmings. Cut to firewood length, the wood was being thrown into the back of a pickup truck by orchard workers. I persuaded my companions to stop, and I negotiated for a dollar's worth of the choicer pieces—a half-dozen 18-in. logs, maybe 8 in. or so in

diameter. So began my love affair with orchard woods.

In the decades since, and over many miles of widely scattered rural roads, I've stumbled upon countless finds of apple, peach, plum, orange, pecan, walnut and other fruit- and nut-bearing species. Most of it was free for the taking. It still amazes me that these beautifully figured and brilliantly colored woods often serve no more enduring a purpose than to warm the back of someone's legs on a cold winter night.

So why don't more woodworkers tap this bountiful source of



beautiful woods? Convenience is probably one of the main reasons. It's a lot easier to go down to the local hardwood lumber dealer and buy bigger, wider boards that have been kiln dried and are ready to work. It requires effort to gather, saw and season orchard woods, and results are far from guaranteed. A simple jig, however, can make it a lot easier to turn logs into boards (see the box on p. 68), and there are a number of tips I've learned over the years that will help minimize loss while the boards are drying (see the story on p. 69).

The benefits of foraging and processing orchard woods are qualitative, not quantitative. Even though the boards you get from any given batch are rarely sufficient for a major piece of furniture, the special character of this wood is precious beyond the time and toil expended. And for many woods, including virtually all of the fruit woods except cherry, gathering and seasoning your own may be the only way to get it.

Many varieties, but most are related

At first blush, the scores of fruits and nuts grown domestically would suggest a great diversity of wood to be foraged. Genetically, however, only three botanical families account for the vast majority of cultivated species. With a few choice but relatively



***Not just for tool handles.** Orchard woods, like the pear used in the veneered cabinet at left by Dan Grenier, can become the raw materials for handsome furniture.*

rare exceptions (persimmon, an ebony relative, comes to mind), orchard woods fit neatly into the rue, walnut and rose families.

The rue family, Rutaceae—Although much manipulated by horticulturists over the centuries, all varieties of orange, lemon, lime and grapefruit trace their origins to closely related Southeast Asian members of the rue family. Because trees in this family are small, they produce few timbers of commercial importance. Members of the citrus genus are the only species in this family commonly cultivated in North America.

Despite substantial differences in their fruits, the woods of all varieties of citrus are virtually the same: very fine-textured, strong, hard, elastic, creamy yellow with occasional grayish-tan streaks in the heartwood. In most respects, citrus woods work like maple, and they perform exceptionally well on the lathe.

The walnut family, Juglandaceae—Our most plentiful nut-producing species, black walnut, belongs to this family. It needs little introduction to most woodworkers because it produces one of the finest cabinetwoods in the world. But the working characteristics of some of the other species besides walnut vary considerably. Hickory is a member of the walnut family and is one of the hardest of our domestic cabinetwoods. Butternut, which is

closely related to walnut, is among the softest.

The walnut family consists of two main groups. The walnut group includes black walnut, English walnut and butternut. These woods all are moderately coarse-textured, semi-ring-porous and range in color from light tan to chocolate brown.

The hickory group includes hickory and pecan. The cultivated pecan, *C. illinoensis*, has a soft, cinnamon-brown color. Hickory is lighter and more yellow than pecan. Both are extremely hard, strong woods.

The rose family, Rosaceae—Orchard woods in the rose family are diffuse-porous and fine-textured. Their figure usually is subtle, but naturally occurring stains are common—sometimes resulting in wood as vividly colorful as Gonçalo alves or rosewood.

The rose family consists of two main groups. The apple/pear group includes apple, pear and crab apple. These woods are fine-textured, hard, light in color and usually not figured. Dyed black, pear has been the traditional wood of choice to use as an ebony substitute because of its extremely fine texture.

The cherry/plum group includes cherry, plum, peach, apricot and almond. These woods tend to be darker in color and somewhat softer than apple or pear, often with a pinkish hue and fine amber bands highlighting the annual rings.

Growing trees for fruit alters the wood

Growing conditions and the way the trees have been manipulated to maximize fruit production strongly affect what the wood looks like and how it acts long after it's cut and dry. For example, most orchard trees are the result of the graft of a scion of a particularly desirable fruit-producing species onto the root stock of a more hearty, disease-resistant variety. The result is a beautifully marbled appearance where the two species meet, with light and dark swirls that neither species produces alone. When English walnut, *Juglans regia*, is grafted onto the root stock of one of our native walnuts (either black walnut or the northern California walnut, *J. hindsii*), the result is called claro walnut, a wood that is highly prized for gunstocks. Many varieties of orchard-grown fruit trees, especially apples, are grafted similarly.

Another influence on the wood is the annual pruning most orchard trees receive. Pruning results in an abundance of crotch figure and other intricate patterns of wavy grain as the severed branches heal. Pruning also typically allows pigment-producing fungi to invade the tree. The fungi may spalt the wood or may cause the tree to produce natural antiseptic compounds that polymerize into pigments. Either way, the result can be a kaleidoscope of color. In an apple log, because of the wood's light creamy-tan color, the effect can be particularly stunning.

Beware of reaction wood

Pruning also creates highly unstable tension wood along the upper side of the branch. This reaction wood, capable of as much as 5% longitudinal shrinkage, is trapped by adjacent normal tissue, which hardly shrinks at all in length. As it dries, the reaction wood will either bend or twist the board. Or the surrounding wood tissue will hold the reaction wood in place, which causes the reaction wood to fracture, forming fine cross-grain checks. The telltale signs of reaction wood are streaks or patches of bland, lusterless wood, often with a fuzzy texture. Reaction wood usually is lighter in color than the surrounding heartwood and has a dull-gray or dirty, yellowish cast. □

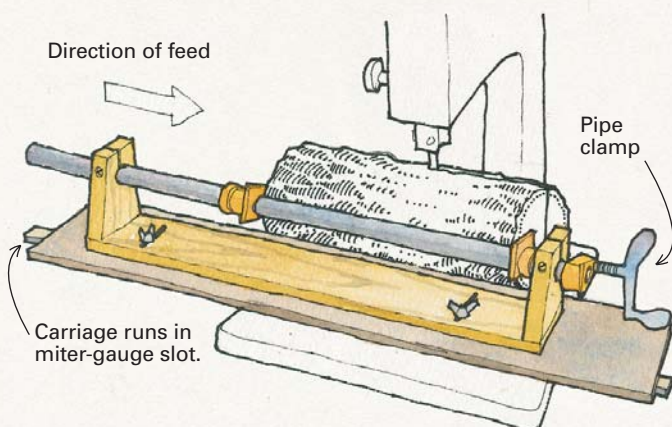
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Resaw jig for the bandsaw

If you want to do anything with orchard woods besides turn them on a lathe, you first have to turn logs into boards. A well-tuned bandsaw and a sharp blade will take you a long way toward that goal, as will keeping your pieces to a reasonable length—no more than 3 ft. or so. The trick is holding the log in position while you maneuver it

through the blade and keeping the cut straight.

A carriage of some sort is needed. Over the years, a number of them have appeared in the pages of *Fine Woodworking*. The simplest, and possibly the best, was one that appeared in the "Methods of Work" section of *FWW* #84. The idea came from Mr. E.G. Lincoln of Parsippany, N.J.



APPLE



PERSIMMON



ALMOND



PLUM



PEAR



SPALTED APPLE

Tips for drying orchard woods

Processing orchard-grown wood into seasoned lumber requires special care. Here are some basic tips I've gleaned from 30-odd years of trial and error.

Cut the green logs into boards or flitches as soon after harvesting as possible. Don't dry excessively large pieces of wood with the intent of cutting them into more usable sizes later. The thinner you cut the stock initially, the quicker it will dry and the easier it will be for the boards to relieve drying stress without developing serious splits.

Coat the ends of each piece with a heavy sealer to prevent checking. I dilute yellow glue with warm water (about two-parts glue to one-part water) so that the mix will have a brushable consistency. Commercial sealers also are available, but I prefer glue because it seems to bond together any minute end checks that may have formed already. If the checks are $\frac{1}{16}$ in. or more deep, trim the ends of the boards before coating.

Stack the lumber in a stickered pile using thoroughly seasoned stickers ripped to a uniform thickness. Space the boards in each layer so that air can flow up through the pile as well as horizontally through the gaps between the boards.

Leave the pile uncovered until the boards are dry to the touch (usually about a week to 10 days). This minimizes the risk of blue staining from fungus and is especially important when drying light-colored woods such as apple, pear or one of the citrus species.

Once the boards are surface-dry, cover the pile with a plastic tarp. Weight down the pile with cement blocks, stones or other heavy objects. The weight helps prevent the boards from distorting, and the tarp helps slow the initial drying rate.

Inspect the pile frequently. If beads of moisture are forming on the inside surface of the tarp, lift the edges to allow increased air flow.

Remove the tarp after several months of drying as long as the pile is otherwise protected from precipitation. In northern climates, where the winter temperatures halt the drying process, it's worth the extra labor to move the lumber inside and then restack it.

Don't rush the process. There is absolutely no chance the wood will become too dry. Stickered lumber that's about 1 in. thick should be left to dry for a year before use. Stock that is 2 in. or thicker may require even more drying time.

Test a sample before use. Rip it down the middle, and attempt to sand this freshly cut surface. If the surface tends to fuzz up or the sawdust sticks together when compressed in the palm of your hand, the moisture content is still too high.

Mentally prepare yourself for a very high loss of stock because of drying problems. Horrendous checks, splits, cup and bow just happen. Having to scrap as much as half of a