

## OUTLINE FOR WOOD ID

That I believe that the best way to master Tree and Wood ID is practice and observation and if you have trouble with the identification a species, refer to and practice using a good reference, such as the Forest Trees of WV booklet and the key to WV Forest Trees provided. Identification of trees in the winter may require studying a good dendrology reference book such as Woody Plants In Winter by Core and Ammons.

Start by becoming familiar with the different shapes of leaves, different bark characteristics and different site locations of species and then work your way up to more details to differentiate between species with common characteristics, such as the oaks and the hickories.

I also have found that learning the smells of some of the wood specimens is a very good tool. Some woods retain their smell even when partially deteriorated. You can also sample a portion of a limb or twig of a tree in the wintertime to obtain the smell. Some common ones that are distinctive, are red oak, white oak, chestnut oak, walnut, sassafras, poplar, and black birch.

### Common Terms:

**Annual Growth Ring:** The growth layer put on in a single year.

**Bark:** Outer layer of a tree.

**Cambium:** The one-cell-thick layer of tissue between the bark and wood that repeatedly subdivides during the growing season to form new wood and bark cells.

**Heartwood:** The central, dead portion of the wood of a tree, usually distinguished from the outer living sapwood by a difference in color.

**Ovoid:** Egg-shaped, with the broadest portion near the base.

**Sapwood:** The outer, living portion of the wood of a tree.

**Trunk:** The main stem of a tree.

**Pores:** Rounded openings on end cuts, and fine grooves on side cuts. Pores may be so small that they are not visible to the naked eye, example maple or they may be large enough to be easily seen, example red oak. Pores are small vessels spread throughout wood used for water transport.

**Ring-porous:** In a group of hardwoods, when large spring pores are visible to the naked eye and the small summer pores are not.

**Diffuse-porous:** No large pores; small ones may be a little larger on the spring growth.

**Rays:** Marks, lines or bands differing in color from surrounding wood and containing no visible pores. Rays visible on end and side cuts.

**Tyloses:** Masses of cells appearing somewhat like froth in the pores of some hardwoods, notably the white oak and black locust.

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Pith: The small, soft core occurring in the structural center of a tree, trunk, branch, twig, or log; examples white ash and black walnut.

### Characteristics of some common hardwoods:

White Oak: light brown to dark brown, ring-porous and tyloses usually abundant, rays broad or narrow and conspicuous.

Red Oak: Heartwood light, reddish brown or pinkish brown, ring-porous, open pores (no tyloses), rays broad or narrow and conspicuous..

White Ash: Heartwood light brown, ring-porous, rays not visible, pith visible in center of small diameter trees.

Black Locust: Heartwood greenish yellow to golden brown, ring porous, early wood with complete tyloses, rays small and normally spaced.

Sassafras: Heartwood dark brown or orange brown, ring porous, earlywood pores with glistening tyloses, rays visible to eye, appearing uniform in size and spacing, spicy, distinctive odor.

American Chestnut: Heartwood brown, ring porous, rays fine, not visible to unaided eye, resembles oaks except for absence of large rays.

Chestnut Oak: The same as white oak, except some spring wood and summered pores without tyloses and totally or partially open, pores are also sometimes oval shaped.

Black Walnut: Heartwood light brown to rich chocolate, semi-ring porous, wood is hard and heavy.

Butternut or White Walnut: Heartwood light chestnut brown, semi-ring porous, pores scattered, rays fine and indistinct to eye, wood soft and light.

Hickory: Heartwood pale brown to brown or reddish brown, semi-ring porous, rays normally spaced, not visible without lens, wood hard and heavy.

American Beech: Heartwood with a reddish tinge, sapwood whitish, rays of two sizes, broad oak-type visible, separated by fine rays that are not visible to unaided eye, wood hard and medium heavy.

Yellow Poplar: Variable shades of yellow-brown and greenish brown, diffuse-porous, rays visible on cross-section, wood relative light and soft, has distinct smell.

Black Gum: Heartwood brownish gray and sapwood wide and white to gray, pores small and uniform in size, rays fine and close, wood is very dense and heavy.

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Sugar (Hard) Maple: Heartwood light reddish brown, sapwood wide and white, diffuse-porous, rings delineated by a narrow, darker line, rays of two widths, the largest visible to eye and narrow rays difficult to see with lens, wood is very hard.

Black Cherry: Heartwood light reddish brown to dark red brown, semi-ring-porous, rays plainly visible to eye, appearing in uniform size.

Sourwood: Wide and creamy white to yellowish or pinkish brown, heartwood light reddish or pinkish brown, turning brown with age, growth ring pattern diffuse-porous, growth ring distinct, delineated by a narrow band of denser tissue sometimes appearing whitish, rays not distinct without lens.

(Note: used for tool handles, farm implements and sled runners and historical- bearings for machinery.)

Soft Maple: Heartwood light brown sometimes with a grayish or purplish cast, sapwood wide and white, growth ring pattern diffuse-porous, rays visible to eye, varying uniformly in width, the largest about as wide as the largest pores and separated from hard maple by appearance of rays and lack of luster.

Black Birch: Heartwood light to dark brown, usually reddish brown, growth ring pattern diffuse-porous, sapwood whitish to pale yellow, rays evenly distributed and barely visible.

Serviceberry: Heartwood pinkish to reddish brown, growth ring pattern diffuse porous, rays fine and uniform.

Ironwood (Eastern Hophornbeam): Heartwood usually light brown, growth ring pattern diffuse-porous, rays fine and indistinct, the wood is tough, heavy and strong.

(Note: was sometimes used for wagen tongues)

Water Beech (American Hornbeam): Heartwood pale yellow or brownish, sapwood thick and whitish, growth ring pattern diffuse-porous and a ring boundary with a narrow whitish band that is somewhat wavy, pores small and usually in multiples and aggregated into clusters, rays both large and narrow and large rays indistinct due to being nearly the color of the background.

Aspen: Sapwood whitish to creamy; heartwood same but also to light grayish brown with pronounced silky luster, latewood pore arrangement, numerous and small and not visible to naked eye, rays very fine, scarcely visible with hand lens.

Basswood: Wood creamy white to pale brown, growth ring pattern diffuse-porous, rings distinct, pores small, evenly distributed, forming tangential and radial groupings which give a lace-like pattern to the surface, rays appearing widely spaced, wood is soft and light and has a characteristic odor.

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Hackberry: Heartwood yellowish gray or brown; frequently with a greenish cast. Sapwood pale yellow or greenish yellow. Growth ring pattern is ring porous, Earlywood pores in 2-5 rows; Latewood pore arrangement is more or less continuous. Rays distinct to eye. Distinguished from elms by distinctiveness of rays and by color. (Elm heartwood is light brown to brown and sometimes reddish). The hackberry lumber is sold as elm or white ash.

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