FORESTRY EXTENSION NOTES

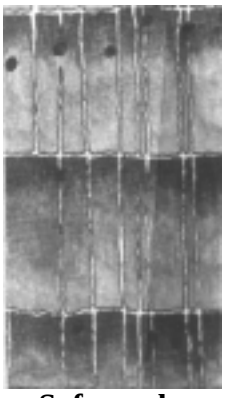
# WOOD IDENTIFICATION

## KEY FOR THE IDENTIFICATION OF COMMON WOODS

I. Pores absent on freshly cut cross section, radial alignment of cells, and general cell structure visible only with magnification ---------- **Softwoods**

II. Numerous pores visible on freshly cut cross section with or without hand lens ---------- **Hardwoods**

### I. SOFTWOODS



**Softwood**

1. Resin ducts normally present ..... 2
1. Resin ducts normally absent ..... 10
   2. Summerwood sharply defined; abrupt color change from springwood summerwood ..... 6
   2. Summerwood not sharply defined; gradual color change from springwood to summerwood ..... 3
3. Many resin ducts present scattered throughout the cross section appearing as large white or dark-colored spots or holes ..... 4
3. Only a few resin ducts present appearing as very small inconspicuous white spots ..... 5
   4. Wood streaked with brown, showing large and long (1 to 2 inches) resin ducts on the flat surface, Resin ducts on cross section appear to be dark-colored holes ..... **Sugar Pine**
   4. Wood containing short (1/4 to 1/2 inch) streaks on the flat surface representing resin ducts ..... **Western or Eastern White Pine**
5. Wood light brown or sometimes pinkish. Surface of wood parallel to growth rings frequently containing numerous dimples ..... **Sitka Spruce**
5. Wood generally whitish, cream or light tan in color ..... **Eastern or Engelmann Spruce**
   6. Many resin ducts appearing on cross section distributed throughout summerwood and springwood ..... 7
   6. Few resin ducts present; possibly clustered together in spots ..... 9
7. Flat surface of wood showing dimples caused by small indentions in the grain. (Hold sample at ordinary reading distance – no lens) ..... **Lodgepole Pine**
7. Flat surface usually not dimpled ..... 8
   8. Summerwood rings broad to narrow; wood moderately hard to hard; medium in weight or heavy ..... **Southern Pines, Jack Pine or Red Pine**
   8. Summerwood rings generally narrow; wood moderately soft; may be dented with fingernail ..... **Ponderosa Pine**
9. Wood with typical resinous odor on freshly-cut surface. Summerwood darker than springwood, forming clear-cut contrast between rings ..... **Douglas Fir**
9. Wood without odor on freshly-cut surface. Summerwood and springwood rings near the same color not forming a marked contrast. Difficult to cut across the grain smoothly ..... **Western Larch**
   10. Wood with distinct odor when freshly cut ..... 11
   10. Wood without odor when cut ..... 16
11. Wood generally of a brown or red-purple color ..... 12

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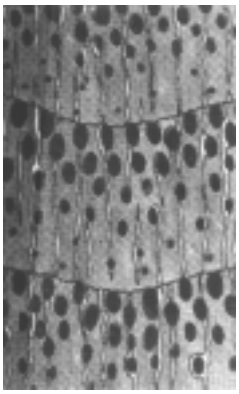
11. Wood creamy or tan in color ..... 14
    12. Wood fine textured. Individual pores difficult to distinguish even with a hand lens. Color of heartwood red with tinge of purple; sapwood creamy white ..... **Eastern Red Cedar**
    12.Wood coarse enough so that cells may be seen with the aid of a hand lens ..... 13
13. Freshly-cut wood giving a bitter taste (with burning sensation) when exposed to the tongue for several seconds ..... **Incense Cedar**
13. Freshly-cut wood without burning sensation; faint, sweetish odor ..... **Western Red Cedar**
    14. Wood feels waxy or oily; brown to tan-colored, the summerwood forming wavy patterns of reddish purple color ..... **Cypress**
    14. Wood not oily to the touch ..... 15
15. Summerwood appearing as fine purple-colored lines relatively close together. Wood soft and light, the springwood tending to crumble when cut across the grain ..... **Southern White Cedar**
15. Summerwood appearing as relatively thick lines of a brownish color. Over-all color of wood much lighter than the other cedars. Wood cuts easily without producing crumbling. Strong characteristic ginger-like odor on freshly-cut surface ..... **Port Orford Cedar**
    16. Wood dark red-brown or deep red; very light in weight and soft ..... **Redwood**
    16. Wood light brown or tan colored ..... **Hemlock or White Fir**

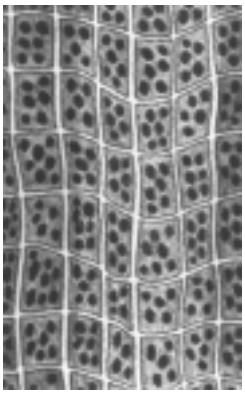
## II. HARDWOODS

17. Pores of two sizes, large in springwood and small in summerwood (ring-porous) ..... 18
17. Pores of approximately the same size (diffuse-porous) or grading from large to small through both springwood and summerwood ..... 26
    18. Rays of two distinct widths, broad and narrow. The broad rays appearing like thick or heavy straight pencil lines on the cross section ..... 19
    18. Broad rays absent. All rays of medium or narrow width ..... 20
19. Pores in the summerwood too small and crowded to be counted. They appear as white radial lines only. Most of the springwood pores contain film-like deposits called tyloses. Wood tan to brown colored ..... **White Oak**
19.Summerwood pores can be counted through the lens. They look like tiny open holes strung out in a line at right angles to the big springwood pores. Wood generally a pale reddish color. Springwood and summerwood pores contain very few film-like deposits ..... **Red Oak**
    Many pores in summerwood. They look like wavy or "snakey" bands, even without the lens ..... 21
    Only a few pores in the summerwood. They are scattered or in small clusters ..... 23
21. Springwood pores in a single row ..... 22
21. Springwood pores in two to several rows ..... **Hackberry**
    22. Springwood pores all about the same size, containing few film-like Deposits ..... **Soft Elm**
    22. Springwood pores grading in size from small to large; many filled with film –like deposits ..... **Hard Elm**
23. Summerwood containing continuous light-colored wavy lines parallel to the growth rings ..... **Hickory of Pecan**
23. Summerwood not containing light-colored wavy lines ..... 24
    24. Summerwood pores in lines or branched figures parallel to the rays. Individual pores generally too small to see with a hand lens. Springwood pores very big and often filled with film-like deposits. Wood is soft, coarse-grained and always brown in color. Most of it has worm holes ..... **Chestnut**
    24.Summerwood pores can be seen easily with a hand lens, usually occurring singly or in groups of two ..... 25
25 Heartwood tan colored to light brown. Sapwood nearly white. Whitish lines occasionally connecting individual pores ..... **White Ash**
25. Heartwood a dull gray-born. Summerwood pores not connected by light lines ..... **Brown or Black Ash**
    26. Pores grading in size from large springwood pores to smaller summerwood pores ..... 27
    26. Pores all about the same size throughout the summerwood and springwood with little or no change in pore size ..... 29

27. Rays distinct without the aid of a hand lens and very numerous. Wood reddish in color, and occasionally containing deposits which have the color of dried blood ..... **Cherry**
27. Rays indistinct without the aid of a hand lens ..... 28
28. Wood chocolate or purple-brown in color; relatively hard and heavy ..... **Walnut**
28. Wood ranging from cream color to a dull red-brown, or gray.
Very soft and light ..... **Cottonwood, Aspen or Willow**
Cottonwood and aspen are so similar that it is difficult to identify the wood by any means. Willow is generally darker in color and more streaked with pink or brown.
29. Rays of two widths. Larger rays at least twice the width of the largest pore ..... 30
29. Largest rays not twice the width of the largest pore ..... 32
30. Larger rays closely spaced and sharply defined (very conspicuous) ..... 31
30. Larger rays often widely spaced. Very few may be seen in a small sample of wood. Wood pale flesh color ..... **Red Alder**
31. Rays nearly all large, numerous and fairly uniformly spaced ..... **Sycamore**
31. Large rays occurring between fine rays, more or less irregularly spaced ..... **Beech**
32. Growth rings not terminated by a thin continuous line ..... 33
32. Growth rings terminated by a thin continuous white line ..... **Yellow Poplar or Magnolia**
33. Rays invisible without a hand lens ..... 34
33. Rays visible without a hand lens ..... **Soft or Hard Maple**
These species are often separated in the following manner. Soft maple is easily dented with the thumbnail, while hard maple is not. The rays in hard maple appear to be all one size, while soft maple has rays of two widths. Soft maple often contains light or dark-colored spots called pith flecks. Hard maple does not.
34. Pores large and clearly seen with the aid of a hand lens. Pores often appearing as white dots to the naked eye ..... **Birch**
34. Pores small and difficult to see even with a hand lens ..... 35
35. Wood soft (readily dented with thumbnail). Often containing ripple-like marks, one on top of the other on the tangential surface. Wood with a characteristic odor on a freshly cut and wet surface ..... **Basswood**
35. Wood moderately hard, without ripple marks or characteristic odor 36
36. Heartwood reddish brown, sapwood pinkish **Red Gum**
36. Heartwood, grayish, sapwood with yellowish cast ..... **Tupelo Gum**



**Ring Porous Hardwood**



**Diffuse Porous Hardwoods**

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