

forestry & natural resources

ENVIRONMENTAL FORESTRY

Identification of Common Indiana Conifers

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A number of native and introduced species of coniferous trees have been planted throughout Indiana for forestry uses. The conifers are frequently called "evergreens" or "softwoods." However, these names are not entirely descriptive since some conifers are deciduous and the wood of several species would be classified as hard. The name "conifer" refers to the type of fruit borne by the tree, usually a woody cone; however, the junipers and yews vary in having small berry-like fruits.

The leaves of conifers may be needle-like, such as the pines, or they may be scale-like or awl-shaped, such as the junipers and northern white cedar. Most conifers have persistent leaves which remain green for two or more years before they are shed. Bald cypress and the larches, being deciduous, lose all their leaves in the autumn.

Characteristics used in the identification of conifers include types of leaves, needle length and arrangement, and twig and bud characteristics. Cones, when available, are valuable aids owing to differences in size and form.

The following key to identification is constructed so that a series of alternative choices must be made from pairs of descriptions. After a choice has been made, the number on the right hand margin indicates the next pair of descriptions until the name of the tree is ultimately reached.

References

- Harlow, William M. and Ellwood S. Harrar. *Textbook of Dendrology*, 5th ed. McGraw-Hill Book Company, New York. 1969.
- Deam, Charles C. and T. E. Shaw. *Trees of Indiana*. Department of Conservation, Indiana Publication 13a. 1953.



Norway Spruce



White Pine



Hemlock

1. Leaves needle-like (linear)	2
1. Leaves awl-shaped and/or scale-like	12
2. Needles borne singly on the branchlets	13
2. Needles in clusters of 2-5, or more than 5 on short spurs	3
3. Needles in clusters of 2-5	4
3. Needles in clusters of 10 or more on short spurs on old growth and singly on new growth, deciduous	Larches
4. Needles in clusters of 5	White Pine*
4. Needles in clusters of less than 5	5
5. Needles in clusters of 2, 4-6 inches long	6
5. Needles in clusters of 3, or if in 2's, or 2's and 3's, less than 4-6 inches long	7
6. Needles flexible, soft; buds brown	Red Pine*
6. Needles stiff, sharp pointed; buds conspicuous, white	Austrian Pine*
7. Needles in clusters of 3	8
7. Needles in clusters of 2 or 2 and 3	9
8. Needles 6-9 inches long, pale green, slender, slightly stiff	Loblolly Pine
8. Needles 3-5 inches long, dark yellow green, stout, standing stiffly at right angles to branchlets	Pitch Pine
9. Needles in 2's and in 2's and 3's	10
9. Needles in 2's only	11
10. Needles in 2's (rarely in 3's), 1½-3 inches long, stout, twisted, arranged sparsely and irregularly on branchlets, twigs with purplish bloom	Virginia Pine
10. Needles in 2's and 3's, 3-5 inches long, slender, flexible, not twisted, somewhat tufted at ends of branchlets	Shortleaf Pine
11. Needles 1-1½ inches long, stout, divergent; buds thickly covered with gum, cones incurved, pointing toward ends of branchlets	Jack Pine
11. Needles 1½-3 inches long, twisted, buds sharp pointed, slightly resinous, cones symmetrical, pointing toward base of branchlets	Scotch Pine*
12. Leaves both awl-shaped and scale-like; fruit dark, blueberry-like	Junipers
12. Leaves scale-like in fan-shaped sprays; cones ½-inch long	Northern White Cedar
13. Needles angular in cross-section (either triangular or square); branchlets with peg-like projections	Spruce
13. Needles flat in cross-section	14
14. Branchlets slender; needles 1/3-1 inch long	15
14. Branchlets stout; needles 1 inch or more in length	17
15. Leaves soft, feathery; light yellow-green above, deciduous	Bald Cypress
15. Leaves dark yellow-green above, persistent	16
16. Needles flat, blunt, with two white lines on lower surface	Hemlock
16. Needles flat, sharp pointed, green on both surfaces	Yew
17. Buds blunt, often resinous, cones erect	Firs
17. Buds sharp pointed, many scaled, cones pendent	Douglas Fir

*These pines have "regular" growth; that is, they produce one whorl of lateral branches each year. The other pines have "irregular" growth; that is, they produce two or three whorls of lateral branches each year and have a more "ragged" appearance.



Northern White Cedar



Juniper

RR 12/85 (4M)