

# Christmas Trees

## IDENTIFICATION, SAFETY, AND CONSERVATION

### IDENTIFYING CHRISTMAS TREES

Practically all species of evergreens can be—and are being—used for Christmas trees, though some command better market prices than others. There is no best all-around Christmas tree species. Of course, some people show a decided preference for a certain species. Desirable characteristics of a tree are:

1. Retention of needles from the time of cutting through the Christmas holidays.
2. Full, symmetrical shape.
3. Limb strength adequate to support ornaments and electric lights.
4. Sufficient nonprickly foliage with a healthy green color.
5. Fragrant odor.
6. Springy branches that can be tied compactly for shipment without breaking, and regain their shape when released.

It is not easy to tell one evergreen from another, in normal Christmas tree sizes, because small trees often do not have fruit (cones or berries), which is helpful in identification. The bark also does not usually show fully developed characteristics. However, the needles (leaves) and their arrangement on the twig, plus the buds, are often enough to identify the tree. Emphasis here is placed on needle identification.

If the leaves are scalelike, the tree could well be a redcedar. If the leaves are needlelike and in clusters of two or three, quite likely it is a pine.

If the leaves are not in clusters, that is, if they are attached to the twig or branch singly, it could be either a fir or spruce. If the twigs are roughened by persistent woody leaf-bases, and cones, if present, are hanging, it could well be a spruce. On the other hand, if the twigs are without persistent woody leaf-bases, and they show oval scars where the leaves fell off, the tree probably is one of the firs.

**Balsam fir** (*Abies balsamea*), a favored Christmas tree, is common on our central and eastern Christmas tree markets. This species has needles which are short— $\frac{1}{2}$  to  $1\frac{1}{4}$  inches in length—flat, dark green, and usually rounded at the tips. The needles are attached at opposite sides on grayish, finely hairy twigs. The twigs resemble crosses, that is, the tiny twigs on the branches are at approximate right angles. The buds are rounded at the tip and are coated with a distinct waxy pitch. If the tree has cones, they are attached upright to the branch and 2 to 3 inches long, purple, often resinous, with cone scales usually hiding the bracts—those leaflike appendages between the cone scales. The balsam fir bark is gray or brown, thin, smoothish, often with many resin blisters. The bark becomes scaly as the tree grows older.



**Douglas-fir** (*Pseudotsuga taxifolia*) has needles that are short-stalked, flat, soft and pliable,  $\frac{3}{4}$  to  $1\frac{1}{4}$  inches long, dark yellow green or blue green. The needles are attached all the way around the twig rather than in featherlike arrangement as with balsam fir. The buds are reddish brown, narrowed at the tip and sharp-pointed, differing from the rounded blunt buds of true firs. If a Douglas-fir tree has cones, its identification is easy, for the cones have characteristic long, 3-toothed bracts which extend conspicuously beyond the cone scales. The cones are from 2 to 4 inches long, light brown, with thin, rounded scales. The bark is dark or reddish brown.



Balsam fir.

F-430963

Douglas-fir.

F-308969

Most of the small colored Christmas trees seen on the markets are **black spruce** (*Picea mariana*) and were probably grown on the swampy areas of northern Minnesota. The stiff, crowded, somewhat curved needles of the black spruce are 4-angled and short— $\frac{1}{4}$  to  $\frac{5}{8}$  inches long, pale blue green, and end in a short, sharp, hard tip. Here is a Christmas tree which might have cones when you obtain it, because it grows slowly and, by the time it is Christmas-tree size, it is old enough to bear fruit. The part you get as a Christmas tree is probably just the top of a 10- to 25-foot tree. The cones are  $\frac{3}{4}$  to  $1\frac{1}{2}$  inches long, dull gray brown, with rounded, stiff scales which are slightly toothed. The bark is grayish brown, thin, and on older trees becomes scaly.

**Eastern redcedar** (*Juniperus virginiana*) can be readily recognized. Most people know redcedar, because it grows throughout the eastern half of the United States. It, like its western cousins, the junipers, has scalelike leaves and the fruit is berrylike. The scalelike leaves of the eastern redcedar are only  $\frac{1}{16}$  inch long, dark blue green, but on the needle-



Black spruce.

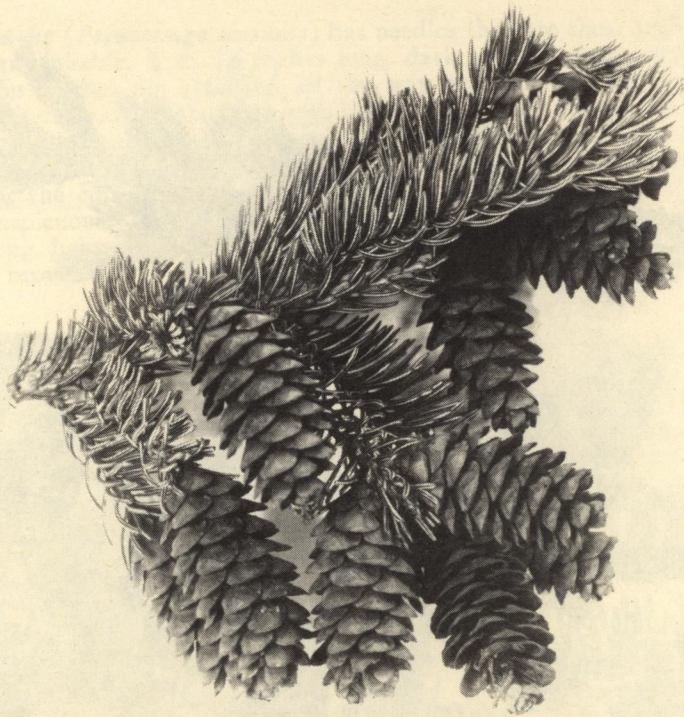
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like leading shoots they may be up to  $\frac{3}{8}$  inch long. The leafy twigs are rounded or 4-angled, and slender. The tree may bear a fruit like a berry, which is dark blue and  $\frac{1}{4}$  to  $\frac{3}{8}$  inch in diameter. The bark is reddish brown, thin, fibrous, and shreddy.

**White spruce** (*Picea glauca*) is sixth on the list of species in Christmas-tree production. Its incurved, sharp-tipped needles are blue green, 4-angled and vary in length from  $\frac{1}{2}$  to 1 inch. This tree holds its needles well. When crushed in the fingers, the needles produce a disagreeable odor. White spruce cones are slender— $1\frac{1}{2}$  to 2 inches long, pale brown and shiny with cone scales that are thin, flexible, rounded, and have a smooth margin. The bark is gray or reddish brown, thin, and becomes scaly on larger trees.

**Scotch pine** (*Pinus sylvestris*) is not native to the United States. Hence, trees of this species found on the markets come from planted stock. With enough open space, it grows into a shapely tree (like other evergreens grown under similar conditions) and for that reason is much sought after and brings a good price to growers. It responds nicely to pruning and shearing and thus can be made bushy. Like all pines, it has needles considerably longer than those of balsam fir, Douglas-fir, spruces, and redcedar. Scotch pine needles are in clusters of two, blue green in color, usually twisted, and from  $1\frac{1}{2}$  to 3 inches long. Cones are not common on trees of Christmas-tree size. When found, they are  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches long, yellow brown with minute prickles on the cone scales. The bark of older Scotch pine trees is distinctly reddish brown to salmon pink, a characteristic which often shows up on trees even of Christmas tree size.





White spruce.

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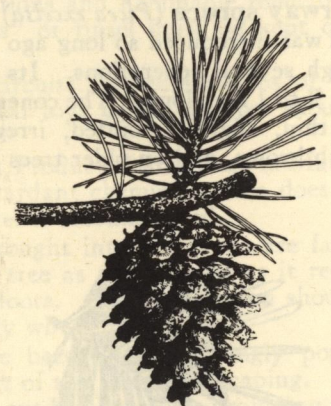
Scotch pine.

**Red spruce** (*Picea rubens*) Christmas trees can be easily confused with black spruce and white spruce, previously mentioned. Its needles are 4-angled, dark green and shiny, and about  $\frac{1}{2}$  inch long. Cones, if present, are short-stalked,  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inches long, light reddish brown, and shiny, with rigid scales rounded and with edges smooth or slightly toothed. The bark is reddish brown, thin, and irregularly scaly. The twigs are rather stout and more or less hairy.

**Virginia pine** (*Pinus virginiana*), like redcedar, is widely distributed over the eastern United States. Usually it is an inexpensive tree. Since the needles give off an especially pleasing odor, many people prefer this tree for indoor use. Its needles are two in a cluster, stout, twisted,  $1\frac{1}{2}$  to 3 inches long, and grayish or yellowish green. Cones are sometimes seen on young trees. They are about 2 inches long, reddish brown, shiny, and very prickly. The bark is dark reddish brown, thin, and scaly. The twigs are purplish.



Red spruce.



Virginia pine.

Southern pines include five species of pines—longleaf, slash, loblolly, pitch, and shortleaf. They grow in the Southeastern States and are largely local-trade Christmas trees. The needles are longer than those of the firs and spruces, and mostly in clusters of three.

**Longleaf pine** (*Pinus palustris*) has needles that are slender and very long—10 to 15 inches, dark green, and three to the cluster. Its cones are large—5 to 10 inches long, dull brown, and prickly. Its bark is dark orange brown and on old trees becomes coarsely scaly.

The needles of **slash pine** (*Pinus elliotii*—formerly called *P. caribaea*) are stout, 8 to 12 inches long, dark green, and mostly three in a cluster, though two in a cluster is not uncommon. Its cones are 3 to 6 inches long, shiny brown, with minute prickles. The bark is purplish brown, with large thin scales.

The **loblolly pine** (*Pinus taeda*) has slender needles that are long—6 to 9 inches—pale green, and three in a cluster. Its cones are 3 to 5 inches long, reddish brown, and stiff, with sharp prickles. The bark is reddish brown and on older trees becomes deeply fissured into broad scaly plates.

The most widely distributed tree of this group is the **pitch pine** (*Pinus rigida*), which has stout needles, 3 to 6 inches long, dark yellow green,

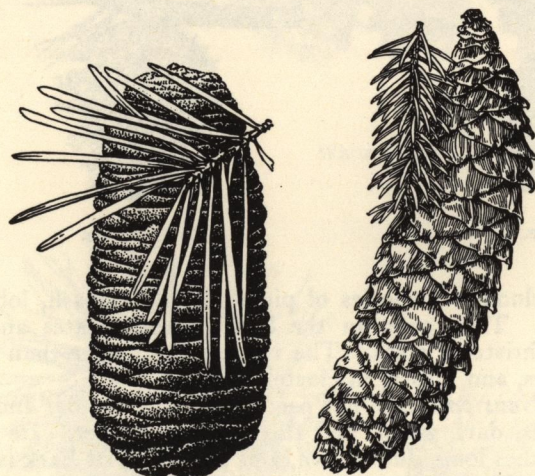


and three in a cluster. Its cones are short and broad—1½ to 3 inches long, light brown, shiny, with small prickles. The cones often remain on the branches several years after opening.

The needles of the **shortleaf pine** (*Pinus echinata*) grow two and three to the cluster. They are slender, dark blue green, and 2½ to 5 inches long. The cones are small, only 1½ to 2½ inches long, dull brown, with small prickles. The bark is reddish brown and on older trees has large, irregular, flat, scaly plates. This tree has ornamental value.

**White fir** (*Abies concolor*) grows into a very desirable Christmas tree. Since it grows naturally only in the West and does not do well in eastern climates, its use is confined largely to the western United States. Its needles are flattened, irregularly arranged, mostly curving or spreading upward and outward, 1½ to 2½ inches long, and pale blue green. Cones on small trees are not common. They grow upright on the branch, 3 to 5 inches long, greenish, purple, or yellow. The bark is gray, smoothish, and on older trees is thick and somewhat furrowed into scaly ridges.

**Norway spruce** (*Picea excelsa*) is another tree not native to America, but it was introduced so long ago that it has had time to reproduce itself through several generations. Its needles are 4-angled, dark green, and about ¾ to 1 inch long. The cones are 4 to 6 inches long and light brown, with thin, slightly pointed, irregularly toothed scales. The bark is reddish brown, and on older trees is distinctly scaly.



White fir.

Norway spruce.

### KEEPING THE TREE FRESH—AND SAFE

Because the trees begin to lose moisture as soon as they are cut, no more time than is necessary should elapse between cutting and use. This helps avoid discoloring and falling of the needles. As soon as a tree is brought to your home or other place of use, store it in a cool, shady place with the butt end placed in water. Sprinkle the branches and foliage with water daily. Cutting the butt diagonally (preferably with a saw) about an inch above the original cut will aid the absorption of water. An evergreen will absorb an astonishing amount of water through the butt. Most of this water is soon lost by evaporation through the foliage.

Safety rules for the handling of Christmas trees in the home are summarized here.

1. Select a fresh, green tree. (If the needles are turning brown, the tree has already dried out and will be a fire hazard.)

2. Saw off the butt end of the tree at least 1 inch above the original cut.

3. Keep the butt end standing in a container of water during the entire time the tree is in the house. Refill the container daily as the tree absorbs the water.

4. Be sure the tree is well supported and is away from fireplaces, radiators, television sets, or other sources of heat. The tree should be placed so it will not block an exit in case of fire.

5. Lighted candles or other open flames should never be used on or about Christmas trees.

6. Check electric lights and connections. Worn, frayed wires or electric cords must not be used.

7. Avoid use of combustible decorations and flammable reflectors for the colored lights. Metal foil "icicles" or tinsel must be kept out of bulb sockets.

8. Avoid overloading the electric circuits. Accumulations of wrapping paper and the placing of electrical toys under the tree should be avoided as fire hazards.

Investigation carried on at the Forest Products Laboratory in Madison, Wis., indicates that the use of fire-retardant chemicals often does more harm than good; hence, the use of water is recommended.

Potted or living Christmas trees brought into the home are favored by some who enjoy having the same tree as many years as it remains small enough to move in and out of doors. Ample provision should be made for watering such trees, especially when indoors.

Outdoor living Christmas trees are becoming increasingly popular, for one can use such evergreens as part of the home landscaping. Some communities encourage decoration of outdoor trees by providing prizes for the best-decorated trees on residential grounds.

### IS THE HARVEST OF CHRISTMAS TREES WASTEFUL?

Some people are troubled about cutting evergreens for Christmas trees. For example, President Theodore Roosevelt, as a conservationist, felt so keenly about the matter that he forbade their use in the White House. He called it wasteful. One year, however, his sons, Archie and Quentin, smuggled one in and set it up in Archie's room. The President's friend and advisor on conservation measures, Gifford Pinchot, assured him that the supervised and proper harvesting of Christmas trees was good for the forests. Since then, the White House has had an indoor tree.

In the years in which there appears to be a surplus of Christmas trees on some markets of the country, the question is raised whether the tradition is not a wasteful one. It would be desirable to balance supply with demand, but that is difficult. In this respect the marketing of Christmas trees shares the same hazards as marketing many other semiperishable commodities. However, some of the larger dealers, when finding one city market oversupplied, quickly reship quantities to other markets reported to have shortages.

On the poorer forest soils, evergreens grow more slowly than on good soils. Slow growth usually produces good-quality Christmas trees—trees that are symmetrical and have dense foliage. A Christmas tree



crop is the only practical one on many forested areas. Here the trees grow satisfactorily for 15 to 25 years, but then stagnate. If they were not cut for Christmas trees, they probably would not be utilized at all. On certain lands of this class that are owned by the State of Minnesota, over a million trees are harvested annually.

### ***Dense Stands Need Thinning***

A Christmas tree is a forest product and probably yields as much joy and satisfaction to humanity as any other forest product. Actually, a properly supervised harvest of Christmas trees can prove beneficial to the remaining stand. A fully stocked timber stand may mature less than 100 trees per acre, these being the survivors among the 5,000 to 10,000 seedlings that nature established. These surplus seedlings are desirable when the stand is young to provide side shade for the final crop trees. Such shading is nature's way of pruning lower limbs. In this manner, high-quality lumber is ultimately produced because the tree trunk has no lower limbs, that cause large, deep knots.

A reasonably well-stocked stand of young Christmas trees established by nature can produce, with good management, at least 50 trees per acre annually. Many young forest stands are so thick that thinnings are necessary to assure satisfactory growth of timber. Thinnings release the remaining crop trees from competition for moisture, soil, and sunlight, so that they can grow rapidly. It is a sound conservation practice to thin out the numbers as the trees develop, and the Christmas tree trade provides a means of utilizing them. Evergreen trees which are properly spaced and desired to be retained for final crop trees for lumber, veneer, piling, pulpwood, and the like, can be designated as reserved trees by a spray of harmless tree paint on their foliage. This indicates that cutters are not to harvest them as Christmas trees, even though they may have desirable shape for that purpose.

Trees cut from the national forests may bear a tag with the following statement: "This tree brings a Christmas message from the great outdoors. Its cutting was not destructive but gave needed room for neighboring trees to grow faster and better. It was cut under the supervision of the U. S. Forest Service on the ----- National Forest."

### ***Complete Utilization is Possible***

Even with trees larger than the usual Christmas tree sizes, utilization can be complete. For example, this is how a Michigan grower markets trees a foot or more in diameter. The top provides a well-shaped Christmas tree, often with a good cluster of cones; such trees command a premium on the markets. The lower trunk is made into a building log or timber, and the smaller intermediate sections are sold for posts, poles, or building rafters. The green foliage of the middle limbs is tied into bundles as material for wreaths. Thus, the entire tree is often fully utilized. On some operations the lower main stem might be sold as pulpwood.

This leaflet contains excerpts from Agr. Inf. Bul. 94, Christmas Trees--the Tradition and the Trade, 22 pp. 1957. The complete bulletin is for sale by the Supt. of Documents, Washington, D. C. 10¢.

Forest Service  
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