

BOTANY

Know Your Christmas Tree

The most popular and most widely marketed are the spruces, Douglas and fir trees, which are of the single-needle class. The needles reveal the type of tree.

By DR. FRANK THONE

See Front Cover

► CHRISTMAS trees are beginning to appear in the markets. Within the coming fortnight every city in the land will be invaded by a forest of little evergreens, which on Christmas Eve will blossom with lights and bear strange but appetizing fruit of gifts and goodies.

Almost as varied as the ornaments that deck their branches are the little trees themselves. Almost every part of the country where trees grow at all produces its own local Christmas-tree species, and in addition there are a few kinds so abundant and so widely used that they can almost be looked upon as "standard" Christmas trees. You don't have to have a Ph.D. in botany to know your Christmas tree; a very few easy identification characters will usually give you its name.

Formation of Needles

First thing to look for is whether the needles are borne singly, or two or more in a cluster. By far the greater part of the trees that come to market, especially if they come from a distance, are of the single-needle class—either spruce, or Douglas, or fir. Trees of this group are popular because their foliage is dense and glossy green, and because it sticks to the twigs longer than the needles of most other conifers.

Spruces are probably still the most widely used of the Yuletide trees. They are easily identifiable: their needles are short (one-half to three-quarters of an inch) and very stiff and sharp-pointed, and they stick out at all angles to the twigs. Each needle stands on a tiny raised place, that remains as a prickle when it falls off. Sometimes even small trees have cones; these are thin-scaled, and hang down.

Firs are cousins of spruces. They make the most beautiful of all Christmas trees, but are far less frequently met on the market. Their needles are usually longer than those of the spruces; they are much softer, do not have sharp points, and are

frequently curved. Although they spring from all sides of the twig, their bases bend around in such a way as to give them a two-ranked appearance. Their cones, when they have them, are like thick candles that stand straight up, instead of hanging down like those of the spruces.

Douglas, which is a kind of intermediate between spruces and firs, is a botanical orphan. It has been called Douglas spruce and Douglas fir, and its lumber has sometimes been sold under the name of Douglas pine. Its technical name, *Pseudotsuga*, is a hybrid word (half Greek, half Japanese!) that means false hemlock. Yet the tree is neither spruce, fir, pine nor hemlock.

Douglas Cones Unique

Despite the hardships of being a botanical Cinderella, the Douglas makes a fine Christmas tree. So much so, that although it is native only to the northwestern states, it is now sold in Eastern markets in competition with spruces. It has sharp-pointed needles, but they are less stiff than those of spruces, yet stiffer than those of the firs. Its cones are absolutely unique: from between each pair of scales springs a narrow, three-pointed appendage.

These, then, are the most popular, most widely sold Christmas trees. They are often hauled hundreds of miles to market, and Christmas-tree farms where they are raised especially for the holiday trade are becoming increasingly numerous. The plantings set out by the late President Roosevelt at Hyde Park constitute perhaps the best-known farm of that sort, though by no means the largest one.

Most Christmas trees, however, are not farm-grown, but represent thinnings in natural or planted forests, where part of the young trees have to be taken out to give the rest a chance to grow into usable sizes. The Yuletide market offers an opportunity to help pay for the labor of thinning.

In addition to this relatively small group of what might be termed "national" Christmas trees, there are

many others that are harvested locally. One of the most widespread of these is another misnamed tree; a juniper that is usually called red cedar or Virginia cedar. It is a peculiar conifer in that its cones have evolved into fleshy berries, with a strong resinous flavor. Red cedar is an attractive tree and is used a good deal for holiday purposes. It would be more popular but for an unfortunate, messy habit of shedding its needles early and copiously.

Close Cousin of Red Cedar

A fairly close cousin of the red cedar is arbor-vitae. This tree is also a berry-bearing conifer; its leaves are not even needles, but have become small, scale-like affairs so closely pressed against the finely-branched twigs that they present an almost fern-like appearance. It is not as well shaped for Christmas-tree purposes as other trees, having a tall, slender, columnar growth habit. Nevertheless it is sometimes used.

All the conifers thus far discussed are of the single-leaved type. Contrasted with them is the one large group that has its needles in pairs or clusters, the pines. Even the shortest of pine needles are longer than those of the spruce-fir



HARVESTED LOCALLY—This red cedar makes an attractive Yuletide tree, but because of an unfortunate, messy habit of shedding its needles early and copiously, it is not widely marketed.



MOST WIDELY USED—This spruce owes its popularity to the fact that its foliage is dense and glossy green and it sticks to the twigs longer than the needles of most other conifers.

group; pine needles are almost never less than two inches long, and in a few noble species they may be as much as a foot in length. Moreover, their cones have thick, heavy scales instead of the thin scales found in the spruce-fir group. There should be no mistaking a pine, if that is your Christmas tree.

Practically all little pines found on the holiday market are cut near the places where they are sold. They do not command as high prices as spruce or Douglas, so long hauls are usually uneconomic for them. All the Eastern states, and most of the Southern and Midwestern states east of the Mississippi, have one or more kinds of pines that spring up thickly in cut-over or burned-over timberlands and take possession of abandoned farms. Two common names, slash pine and old-field pine, are testimony to this habit.

Considered as Weeds

Since most landowners tend to regard such pines as nothing more than mere wooden weeds, they will let harvesters for the Christmas market take truckloads of them for next to nothing, and are very apt to let the individual householder out for a week-end drive help himself to a tree for nothing, if he will haul it away in his luggage-rack. Despite the low esteem in which little pines are often held, they do make attractive Christmas trees.

No matter what kind of tree you buy, or go out into the country and harvest for yourself, you can prolong its useful life and postpone the ill day when it sheds its needles, by setting its cut stem in a container of water. Various sprays have been tried for helping keep foliage on Christmas trees, but just giving them water, as if they were cut flowers, is the treatment recommended by the U. S. Department of Agriculture.

When you get your tree home, saw about three inches off the bottom of the trunk. This will remove the part of the water-conveying system that has become clogged with air bubbles until it will no longer function. Have a can or larger container of water ready, where you intend to set your tree.

Better guard against skidding by securing small blocks around the can with nails into the floor, or some such device. Set the cut end of the trunk into the water as quickly as possible then arrange such braces and guy-wires as will be needed to hold the tree erect. Add fresh water to the supply in the can as needed. This will materially prolong the useful life of your Christmas tree.

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CHEMISTRY

Luminous Paints Add to Christmas Tree's Beauty

► ORNAMENTS, light bulbs and even the needles and branches of the Christmas tree will continue to glow long after all other illumination has been turned off if a little time is taken to add daubs of luminous paint. Many broken ornaments can be put to use again and unusual decorations are made possible by the same method.

Luminous paints are available in prepared forms already mixed in a liquid vehicle. Or they may be prepared by mixing the powder, sometimes found in educational kits, in a clear lacquer, shellac or mucilage. The powder also may be applied as a dust to a surface treated to make it temporarily sticky.

If you get the luminous material in powdered form it is a good idea to prepare about two ounces of each of the following adhesives. Make a celluloid cement by cutting clear, discarded photo film into tiny slivers about a sixteenth inch wide and an inch or so long, and drop them into acetone. Cutting into tiny slivers expedites solution which will occur in a day or two if left standing. Be sure to cork the bottle.

The thin, syrupy liquid is to be used as a "stickum" for glass and metal articles. It should not be used on tree branches. For the second solution thin ordinary mucilage by adding about half of its bulk of clean water. For the third, use a thin dilution of ordinary household shellac, diluting with denatured alcohol until you get a free-flowing liquid.

Test Surface Coating

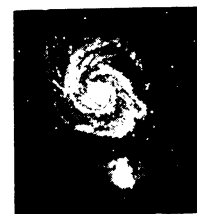
Before decorating any ornament test it for fastness of the surface coating. Apply a tiny drop of one of the adhesives near the top of the ornament. Let stand for a fraction of a minute, then wipe it off. If the color comes off try one of the other adhesives. Use the solution on the ornament which causes the least damage. On any ornaments which have seen their better days it will not matter much if color runs. You will be coating them all over, anyway.

Having established which solutions you will use with the respective ornaments, either dip the article into the adhesive or apply the adhesive with a brush, making designs, sketches, or write across the object in bold script. As soon as the material becomes tacky, sprinkle the surface with the luminous powder or dip and roll in a box of the chemical. Such a surface layer gives the most economical and effective use of the powder.

Or the luminous powder can be mixed with the adhesives mentioned to make a paint which can be handled the same as the bottled products obtained from the hardware, paint or auto supply stores.

For making the tree glow in the

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