

BOTANY

Your Christmas Tree

Number of needle-like leaves clustered together, shape of cones and how they grow, help identify such Christmas trees as pines, spruces and firs.

By DR. FRANK THONE

► CHRISTMAS TREES, this first post-war Yule, will glitter bravely with strange new fruits, we are told: fluorescent lights, plastic baubles, tinted tinsel garlands, and many another novel wonder to make the children's eyes shine brighter. It is well that reconversion has come quickly enough so that some of the things that insatiable Mars has been wolfing for half a decade can already appear, trophy-wise, in the simple home pageantry of the Feast of Peace.

But though the garnish may be new, the trees themselves will be the same as they were in older times. That, too, is well. Christmas is the same feast that has outlived the tyrannies and wars of two long millennia; and if it should see others come, it will, in the end, see them go, too. So it is appropriate that under the symbols of our changing new times we shall still see the abiding symbol of what is beyond the reach of time.

Just because the little trees that suddenly sprout in our homes at Christmas-tide are old, it would seem natural to assume that they are also familiar. Regrettably, however, that is not the case. We make friends and intimates of them, yet most of us somehow never learn their names.

Easy to Learn

Perhaps this is because we fear the amount of botany involved in learning how to recognize our Christmas tree. There is no reason for such shyness on our part. It is really easy to make friends with our Christmas trees—to learn their first names and some of the more interesting facts about their lives.

You start with their needle-like leaves. Do the leaves on your Christmas tree stand singly, or do two or more of them come from the same spot, their lower ends held together by a common sheath, textured like thin brown tissue paper?

If the leaves are in pairs, or in clusters of from three to five, your tree is a pine. If the number is always five, and the needles dark green and rather soft, it is

a white pine. This will not often be the case; little white pines are rarely cut nowadays for Christmas-tree purposes.

If the number of needles is less than five, it will normally be two, though clusters of three or four are frequently found among them. Many pine species have these paired needles. Botanists lump them all together as the yellow-pine group.

A large proportion of the lower-priced Christmas trees offered in city markets along the entire Atlantic seaboard are saplings of scrub pines that spring up, thick as thistles, on cut-over or burned-over timber lands and abandoned farms. Sometimes they even have cones on them—short, blunt ones, with thick scales.

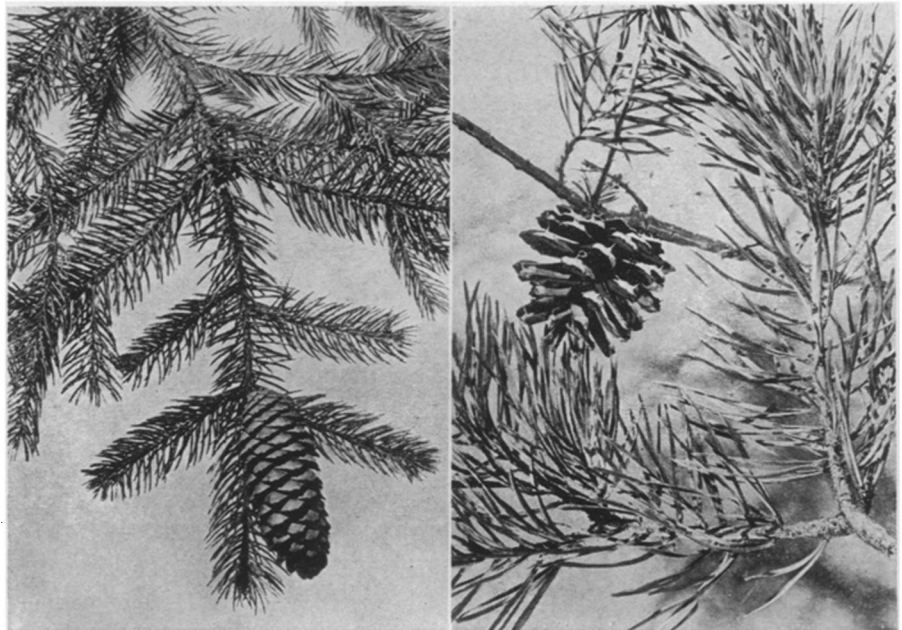
The other great group of conifers used for Christmas trees have their needles one in a place; another mark that distinguishes them from the pines is their

shortness. Pine needles are ordinarily anywhere from two to ten inches long; needles of the trees in this group are usually under an inch.

Three kinds of single-needled trees dominate the Christmas market; spruces, firs and Douglas fir. They are all related, but each has its distinctive features.

Spruces are the most widely offered of Christmas trees, and probably account for the largest over-all total. They are neat, pyramidal little trees, with close-ranked, dark green foliage. Each needle stands out stiffly and has an acute little point, so that if you grab hold of a twig you get a handful of sharp little pin-pricks. If cones are present, they are thin-scaled and hang downward.

Firs are the aristocrats of Christmas-tree society, and usually command higher prices than do the spruces. Their foliage is denser as a rule, and always softer-looking as well as softer to the touch, for the needles have an elliptical cross-section instead of the square or diamond shaped one of spruce needles. They are slightly curved and blunt-ended instead of straight and stiff.



BOTH POPULAR—Widely used as Christmas trees are little spruces, left, easily identified by their singly borne, prickly-stiff needles and down-hanging thin-scaled cones. Small pines, right, also much used, can be told by their longer needles, two or more in a cluster, and their stumpy, thick-scaled cones.

Photographs by Fremont Davis, Science Service staff photographer.

There are likely to be drops or lumps of half-hardened gum on the trunk and branches, whence the tree's other name of balsam. If there are any cones, these will be real beauties; oblong-elliptical in outline, with thin scales pressed closely together, and standing upright on the twigs like fat candles.

While there are several species each of spruces and firs, the Douglas fir stands alone. It isn't really a fir, nor is it really a spruce, though it is sometimes referred to as Douglas spruce.

Douglas fir needles are intermediate between those of spruces and firs: less stiff than spruce and not so flexible as fir; they have points but are not particularly prickly. The tree can be positively identified most easily if there are cones, because between each pair of scales there is a curious, three-pronged appendage that is absolutely unique among conifers.

Douglas fir, strictly a tree of the West, during recent years has also invaded the Yuletide markets as far east as Boston.

In addition to the Big Four among Christmas trees—pine, spruce, fir and Douglas fir—there are a number of

other evergreens that are used to some extent as Christmas trees, depending largely on local cutting for local markets. Among these are red cedar (which is really a juniper, not a cedar at all), with its exceedingly small, needle-sharp leaves and berries instead of cones; hemlock, with very short, blunt leaves which it sheds too copiously to be a really desirable indoor companion; and arborvitae or white cedar (again not really a cedar), with its minute, scale-like leaves completely covering its finely branching twigs.

Use Live Trees

One trend that deserves to be encouraged is the growing use of live Christmas trees, with their roots still on them, set in tubs or baskets.

Live Christmas trees are not expensive: John H. Derby, a New York fire-prevention engineer who for some years has been carrying on a successful one-man crusade in favor of their use, states that their cost compares favorably with the prices usually charged for cut Christmas trees of the conventional sort.

While in use a live Christmas tree is much more attractive than a cut one, because its foliage remains green and glossy, and (what is especially important to the housewife) it doesn't shed nearly so many needles. Moreover, since

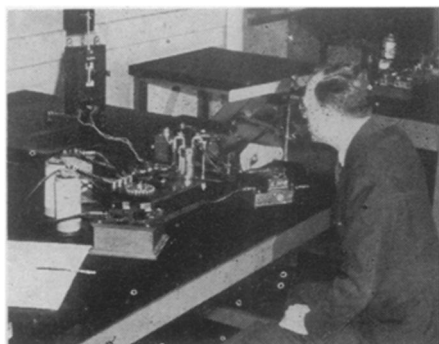
it does not dry out as long as the roots are kept moderately moist, it never becomes a fire hazard.

At the end of the Yule season, the tree can be taken out and set in a previously prepared pit. When this is done, the burlap that is always wrapped around the earth-ball on the roots should be left in place, and loose earth, mixed with leafmold or well-rotted manure, tamped around it.

The planting should be set about four inches below ground level, to permit copious watering in all but actually freezing weather. A tree winter-planted in this way will usually survive, and will be a lasting memento of your Christmas celebration.

Conservationists used to campaign (albeit ineffectually) against the use of Christmas trees. Now, however, the situation is changed. A large proportion of the Christmas trees that come to market are cut from reforestation plantings, where saplings have to be thinned out, like vegetables in garden rows, so that the rest may have room to grow. Some of the choicer offerings are even raised by nurserymen for the holiday trade, just as poinsettias and Jerusalem cherries are raised.

Christmas wreaths and garlands, though, still present some troublesome

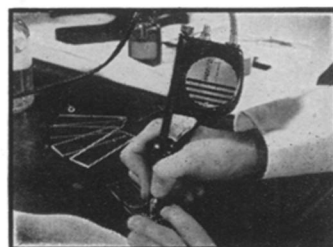


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Do You Know?

England imported nearly twice as much *cheese* in 1944 as in 1938.

The light gray metal *beryllium* is hard enough to scratch glass.

New *phosphorus* compounds have been developed which are of exceptional value in the making of plastics.

A *gorilla* in an English zoo, fed potatoes instead of bananas during the war, did so well that it is doubtful if he will ever get bananas again.

The United States normally consumes about 75,000 tons of tin a year, or approximately 45% of the total world output; domestic production is less than 170 tons annually.

Tea-tablets may replace the familiar dried tea leaves; tea can now be reduced to tablets which are cheaper to process and transport than tea in bulk and which make an equally satisfactory beverage as the loose tea.

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problems, from the conservationist's point of view. Native American holly should never be purchased at all. It is practically always collected by wasteful and destructive methods, and usually by persons who do not own the woods where it grows or take the trouble to get the owner's permission. In wide zones around some of our Eastern cities this beautiful small tree has been all but wiped out, and a long closed season is

needed to give it a chance to recover.

Where English holly is offered, it is a better buy even though it costs more. It is raised by regular growers, who are honestly entitled to their pay. Moreover, English holly makes a handsomer decoration than the native variety; its leaves are a glossier green and its berries a brighter red.

Science News Letter, December 15, 1945

MEDICINE

"Only Pneumonia"

➤ "YOU won't have to come out, he only has pneumonia," the patient's doctor, a general practitioner, telephoned the consultant he had previously asked to see the sick man he was sending to the hospital.

The consultant in this case was Dr. Roger I. Lee, of Boston, the new president of the American Medical Association. Dr. Lee quoted the conversation at the recent meeting of the Association's house of delegates to illustrate the advances and changes in medicine.

With X-rays to aid in diagnosis and easy-to-give sulfa drugs and penicillin instead of complicated serum treatment, pneumonia is no longer a killer and has become a disease which the general practitioner can treat without aid from special consultants.

This and other advances in medicine are changing the picture of what constitutes adequate medical care, Dr. Lee pointed out.

They must, he believes, be considered as well as the number of doctors and hospitals per 1,000 population in defining adequate medical care with a view to making it available to everyone.

Plasma and whole blood not so long ago were given generally only in well equipped hospitals by physicians. Yesterday they were given on battlefields and landing beaches by hospital corpsmen.

Penicillin makes it easy for the general practitioner to treat syphilis and gonorrhea, whereas formerly he was "a little overwhelmed and dizzy," Dr. Lee believes, by syphilis treatment which required injecting arsenicals into the patient's vein.

Treatment of tuberculosis, on the other hand, "no longer consists in rest, fresh air, milk, eggs and a desire to live" but, Dr. Lee stated, demands the services of specialists in chest surgery, thus removing it from the scope of the general practitioner.

Progress in obstetrics has reached the point where having a baby "ranks with catastrophic illness or an operation as a major inroad on the family budget," Dr. Lee pointed out. He believes that anesthesia, prompt surgical repairs, nursing and all the things that make it necessary to have a baby in the hospital and increase the cost of childbirth are a part of adequate medical care.

Science News Letter, December 15, 1945

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