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The Tradition
and
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Agriculture Information Bulletin No. 94
Extension Service Forest Service
U. S. DEPARTMENT OF AGRICULTURE



CHRISTMAS TREES—

THE TRADITION AND THE TRADE

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THE traditional use of evergreen trees during the Christmas season brings close to most Americans the fragrance and freshness of the forest. Christmas trees probably do more to bring joy to families at the holiday season, and to dramatize the message of "Peace on Earth, good will toward men," than any other product of the soil. Indoors and outdoors, Christmas trees have become almost essential for decorative purposes at this holiday season—in homes, churches, and business houses, in parks and on the streets. The dense spreading branches serve

most fittingly, too, as a delightful hiding-place for Santa Claus' presents to both children and adults.

The custom of having a decorated evergreen tree in the home at Christmas seems to have originated in western Germany several hundred years ago. The first use of such trees in the United States may have been during the American Revolution by Hessian mercenary soldiers. An early account tells of a Christmas tree set up by American soldiers at Fort Dearborn, Ill., the site of Chicago, in 1804.

EARLY TREES IN PENNSYLVANIA

Most other early accounts in the United States were among the German settlers in eastern Pennsylvania, including a diary mention of a tree at Easton in 1816. In 1825 a Philadelphia newspaper reported a number of homes having evergreen trees laden with fruit in that area at the Christmas season. By the 1840's the custom had become fairly common in Pennsylvania.

A pamphlet of the American Sunday School Union at Boston about 1845 described the custom as started there in 1832 by a German political refugee. Soon the Christmas tree idea spread all over New England and into New York and other States. A trimmed evergreen was set up by the pastor in a Cleveland church in 1851.

By 1850 the Christmas tree had become fashionable in the eastern

States, following wide publicity given to the introduction of the custom in England by Prince Albert, the German consort of Queen Victoria, in 1841. In England as in America, the tree had until then been considered by many as a quaint foreign custom, but the approval of royalty and society gave it new impetus and popularity.

Franklin Pierce was the first President to introduce the tree into the White House, in 1856, for a group of Washington Sunday School children. Perhaps the first

Christmas trees sold here commercially were by Mark Carr of the lower Catskill Mountains, who took two ox-sled loads of firs to New York City in 1851.

The modern Christmas tree has passed through a long process of development and modification. Today's fully decorated tree bears little resemblance to its simple ancestors. Undecorated evergreen trees have long been used in various churches in Europe at Christmas.

TREE TRACED TO 1500 A.D. IN GERMANY

However, the decorated Christmas tree has been traced by several historians back to about the year 1500, in the province of Alsace along the upper Rhine River. Alsace was then a part of Germany. The earliest written record is dated 1521. Another reference is from Strasburg in 1605: "At Christmas, fir trees are set up in the rooms and hung with roses cut from paper of many colors, apples, wafers, spangle-gold, sugar, etc."

An early German legend tells how Winfrid (St. Boniface), an eighth century English missionary, got some tribes to set up fir trees at Christmas as a replacement for their traditional sacred oak.

Christmas trees have been decorated in some fashion since the custom began—starting ap-

parently, as we have seen, with apples and wafers, paper or cloth roses, and sugar candy. Later, cookies in the shapes of flowers, bells, stars, angels, hearts, men and animals, replaced the wafers. Also added were candles, ribbons, a star for the tip, nuts and fruits gilded or covered with bright-colored paper, toys, dolls, glittering strings of beads, and other ornaments.

One story credits the lighted Christmas tree to Martin Luther, the German Protestant reformer (1483-1546). It is said that he cut a small evergreen tree, brought it into his home, and attached lighted candles—to simulate the bright starlit sky of Christmas Eve.

Candles as a decoration on Christmas trees did not become accepted as part of the decorations

in Germany until about 1700, when the Christmas tree custom spread from the Rhine River district to the rest of Germany and to Austria, particularly in the cities and towns. Candles on the cut trees, while beautiful, were also rather unsafe, so they were usually lighted only for a short time and carefully watched.

The "Paradise Tree"

Some scholars believe that our Christmas tree actually stems from two old traditions which were later combined. One was the evergreen "Paradise tree" of medieval church plays which were held during the fall in western Europe, and which portrayed the Creation and the Garden of Eden. The other tradition was the display at Christmas time in German homes several hundred years ago of wooden pyramid candle-stands consisting of several triangular shelves.

The paradise tree was hung with apples, symbolic of Adam and Eve, and often with round wafers like those used in church services. In Germany the trees were later placed in homes, and the apples were covered with paper of various colors. These covered apples may have become the baubles of today. The wafers were also later replaced by cookies of various shapes and sizes.

There is a record of Moravian settlers in Pennsylvania celebrating Christmas in 1747 with

wooden pyramids decorated with candles, apples, and hymn stanzas.

At any rate, the Christmas tree custom remained exclusively a German one for over 200 years.

Early Trimmings in America

In America, early trimmings were fruit, ribbons, colored paper, red haws, cranberries, polished nuts, tufts of cotton, and strings of popcorn. The cotton and popcorn may have represented snow. Fruits such as apples were easy to attach to Christmas trees and provided desirable color, as did strings of cranberries. Pictures or replicas of foodstuffs such as hams and bacon were once used as substitutes for the real items too heavy for slender branches.

Such trimmings, made in the home or by local craftsmen, have long since been replaced by factory-made highly colored ornaments, baubles, tinsel, strings of varicolored electric lights, and other novelties.

The idea of decorating trees may have been an outgrowth of a practice adopted by early dwellers of the forest. Certain foodstuffs were hung in trees to get them out of reach of prowling animals. On the other hand, trees were worshipped by many people and gifts of food were often hung in the branches as offerings or sacrifices to the deities. Giving to others was a Christian trait, hence the gifts were hung in "Christian trees"—or Christmas trees.

TREES AND BOUGHS USED IN ANCIENT RITUALS

Some scholars trace the origin of Christmas trees to much earlier periods. Even before the Christian era, trees and boughs were widely used for religious ceremonials. Ancient Egyptians, in celebrating the winter solstice—shortest day of the year—brought green date palms into their homes. They were symbols of “life triumphant over death,” just as the sun starts its annual “triumph over darkness” or “rebirth” at this time.

When the Romans observed the feast of Saturn, also at the winter solstice to celebrate the return or “rebirth” of the sun, part of the ceremony was the raising of an evergreen bough. This feast, and the New Year which followed a few days after, featured eating, drinking, merry-making, expressions of goodwill, exchange of gifts, and decorating houses with greenery and lights. Church leaders in Rome replaced the feast of Saturn by Christmas on December 25 in A.D. 354 after Christianity became the accepted religion in the Roman Empire. (The name Saturn survives in our Saturday.)

The early Scandinavians or Norsemen are said to have offered homage to the fir tree. When they became Christians, they made evergreen trees part of their Christian festivals. The burning of fir boughs and the Yule log in late fall were old folk customs in western Europe.

To the Druids or Celts of ancient Gaul (today's France) and Britain, sprigs of evergreens (particularly mistletoe and holly) in the house meant eternal life, while to the Norsemen such sprigs symbolized the revival of the sun god, Balder. The superstitious of these lands long believed that branches of evergreens placed over the door of their homes would keep out witches, ghosts, evil spirits, and the like.

So we see that our Christmas tree custom has evolved from pre-Christian as well as Christian traditions, like the present-day use of greenery in various religious rituals. In America the decorated Christmas tree has become such an accepted tradition that Christmas would seem barren to most people without it. Three-fourths of all American homes now use Christmas trees.

THE FIR WAS AN EARLY FAVORITE

The fir is most commonly mentioned in accounts of the evolution of the Christmas tree. One reason may be that the balsam fir twigs, more than any other ever-

green twigs, resemble crosses. Also, fir trees were abundant in the forest areas of western Germany where the custom apparently originated, as well as in

New England and New York State here in the U.S. Then too, the word "fir" was widely used to designate several different kinds of cone-bearing trees long before botanical classification became standardized and well known. Even today most people are unable to identify various evergreens, frequently calling all of them "firs" or "pines."

Extracts from the fir, especially balsam fir, were long used for medicinal purposes — probably further reason for its early popularity. Certainly the perfume of the balsam fir is one of its outstanding features.

A number of legends, poems, songs, and stories are based on the fir tree. "The Fir Tree" is one of the tales of the famous Danish writer of children's stories, Hans Christian Andersen. And a popular old German folk festival song, "O Tannenbaum," offers a hymn of praise to the fir tree.

Still Favored Today

At any rate, if the fir tree did actually predominate as the early Christmas tree, then our forefathers selected wisely, for the fir is still one of the favorites of today. In this country for many years firs, spruces, and cedars were the common Christmas trees, with balsam fir the unchallenged leader until 1955. The somewhat similar favorite from the West, Douglas-fir, overtook balsam fir in the U.S. about that time.

And since then, the public taste has been shifting more to bushier, longer-needed trees—the faster-growing pines, particularly Scotch pine which is now the No. 1 favorite in the U.S. The pines and firs hold their needles well after cutting, as all evergreens will if the tree is bought early and if the butt is recut and kept in water (see p. 28.)

POPULAR U.S. CHRISTMAS TREES

The U.S. production of Christmas trees in 1964 is shown in table 4, which also gives data for 1962, 1960, 1955, and 1948.

Scotch pine leads the list, 27 percent—more than a quarter—of the total, with 9 million trees. This climaxed a steady rise in popularity, and a sixfold increase in numbers, over the preceding decade. In 1955 it was in fifth place, while in 1960 it was second

to Douglas-fir. Since Scotch pine is not native to this country, all these trees came from plantations, mostly in the States bordering the Great Lakes.

Second in volume in the 1964 season was Douglas-fir, with 22 percent of the total, 7.25 million trees. This tree is harvested from western wild lands (both managed and unmanaged), as well as from plantations, some of

which are in the East. Douglas-fir was in first place for the survey years of 1955 and 1960.

Balsam fir has been in third place for the past several years. In 1964 its share of the national market was 12 percent (one-eighth), compared to 30 percent in 1948.

In 1964 black spruce and Eastern redcedar each accounted for 7 percent of the total tree harvest, compared to 11 and 10 percent respectively in 1948.

Five Species Account for 75 Percent

These top five species together now account for three-quarters of the U.S. production. Eastern redcedar (a juniper) is widely distributed over the eastern, central, and southern parts of the country, and easily reproduces itself naturally, taking over old pastures and fields. Douglas-fir, balsam fir, and eastern redcedar have been among the top five in each of the survey years 1948, 1955, 1960, 1962, and 1964.

The second group of five species here listed accounts for another 15 percent of the 1964 U.S. output, so that the ten top species made up 90 percent of all Christmas trees harvested in that year. In this second group are red or Norway pine, white spruce, white or concolor fir, eastern and western

white pines, and Norway spruce. (The last, although long established here, is also not a native species; however, red or Norway pine is native.)

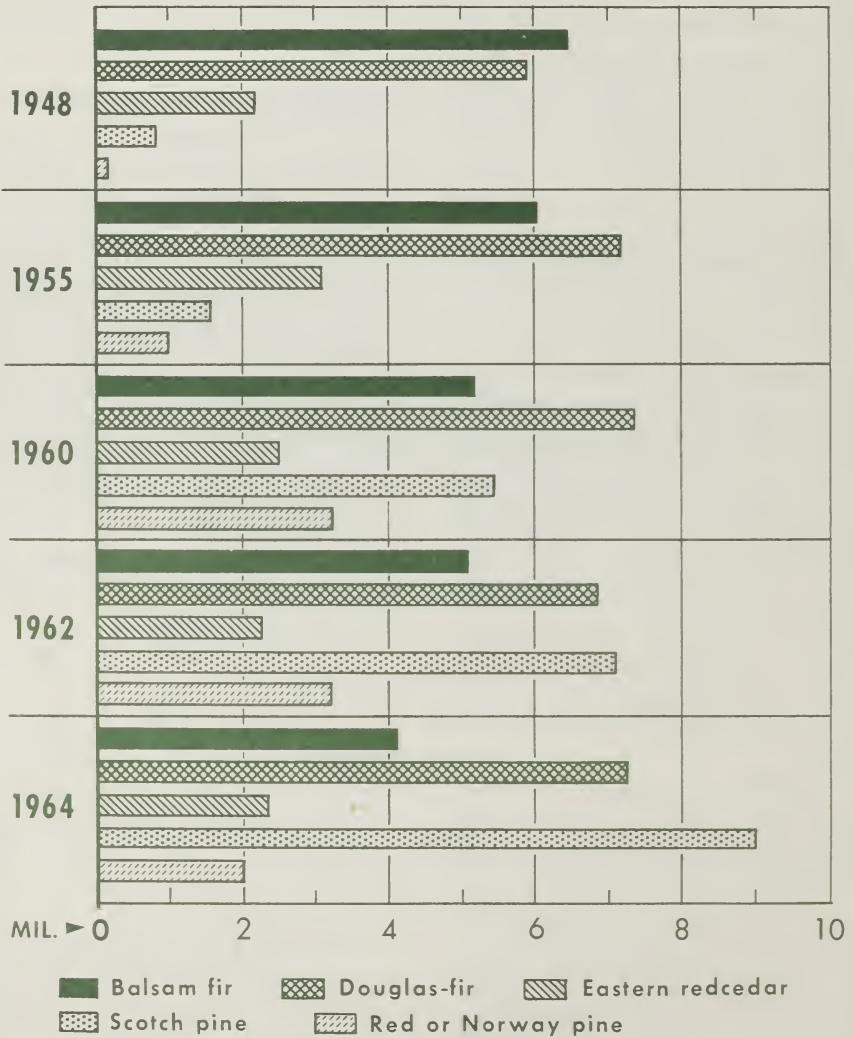
The graph on page 8 shows how the five leading species compared in volume during these 5 tree survey years.

Desirable Features of a Tree

Practically all species of evergreens are being used for Christmas trees, though some command better market prices than others. There is no one best all-around Christmas tree species for all areas. People in some areas of the country still show a preference for certain species, but regional preferences are less significant than formerly. Desirable characteristics of a tree are:

1. Retention of needles from the time of cutting through the Christmas holidays.
2. Full, bushy symmetrical shape.
3. Limb strength adequate to support ornaments and electric lights.
4. Sufficient attractive non-prickly 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.

PRODUCTION OF FIVE MOST POPULAR CHRISTMAS TREES



IDENTIFYING THE PRINCIPAL CHRISTMAS TREES

It is not easy for the layman to tell one evergreen from another in normal Christmas tree sizes, because small trees often do not have cones (or "berries" in the case of junipers), which help to identify them. The bark also is not usually fully developed. However, the "needles" (leaves) and their arrangement on the twig, plus the buds, are often enough. Following are brief descriptions of 17 of the more common Christmas trees. 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, three, or five, it is a pine.

If the leaves are not in clusters, that is, if they are attached singly along the twig or branch, the tree could be either a fir or spruce. If the twigs are roughened by hard peglike leaf-bases, if the cones hang down, and if the leaves are stiff, are sharp pointed on their ends, and are not flat, it could well be a spruce. On the other hand, if the twigs are smooth and show oval scars where old leaves fell off, and if the leaves are flat, the tree probably is one of the firs.

Scotch pine (*Pinus sylvestris*), with enough open space, grows into a shapely tree (as do other evergreens grown under similar conditions) and so is very popular and brings a good price to growers. It



Scotch pine.
(About one-third natural size)

F-512689

responds nicely to pruning and shearing and thus can be made bushy, which is very desirable. Like nearly all pines, it is fast growing and has needles considerably longer than those of balsam fir, Douglas-fir, and spruce. Scotch pine needles are in clusters of two, blue green in color, usually twisted, and from 1½ to 3 inches long. Cones are not common on trees of Christmas tree size. When found, they are yellow brown, 1½ to 2½ inches long, turned back on the branch, with minute prickles on the cone scales.

Douglas-fir (*Pseudotsuga menziesii*, formerly *Ps. taxifolia*) has needles that are short stalked, soft and pliable, ¾ to 1¼ inches long, dark yellow green or blue green. The needles are attached all around the twig instead of in the flat featherlike arrangement of 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 of Christmas tree size has cones, identification is easy, for they hang down, with long, 3-toothed, leaflike bracts sticking out conspicuously beyond the tips of the thin, rounded cone scales. The cones are light brown, from 2 to 4 inches long. The bark is dark or reddish brown.

Balsam fir (*Abies balsamea*), has short needles—½ to 1¼ inches long—flat, dark green, and usually rounded at the tips. The needles are arranged featherlike on grayish, finely hairy twigs.

The twigs resemble crosses; that is, the tiny twigs grow at approximate right angles to the branches. The bud tips are rounded and coated with a waxy pitch. Cones, when present, are attached upright to the branch, and are 2 to 3 inches long, purple, often resinous. The bracts — leaflike appendages between the cone scales—are usually hidden. The balsam fir bark is gray or brown, thin, smoothish, often with many resin blisters.

Most of the small (table-size) artificially colored Christmas trees seen on the markets at Christmas-



Douglas-fir. F-308969
(About one-third natural size)



Balsam fir. F-430963
(About one-third natural size)

time are black spruce (*Picea mariana*), which have been painted. They come mostly from the swampy areas of northern Minnesota. The stiff, crowded, somewhat curved needles are 4-angled, short— $\frac{1}{4}$ to $\frac{5}{8}$ inch long, and pale blue green. The twigs are hairy, and the cones are small— $\frac{3}{4}$ to $1\frac{1}{4}$ inches long, dull gray brown, with rounded, stiff, slightly toothed scales. The bark is grayish brown and thin.

Eastern redcedar (*Juniperus virginiana*) is easy to recognize. Like its western cousins, the juni-

pers, it has scalelike leaves and the fruit is berrylike. The scalelike leaves are only $\frac{1}{16}$ inch long, dark blue green, but the leading shoots bear needlelike leaves up to $\frac{3}{8}$ inch long. The leafy twigs are rounded or 4-angled, and slender. "Berries," if present, are dark blue and $\frac{1}{4}$ to $\frac{3}{8}$ inch in diameter. The bark is reddish brown, thin, fibrous, and shreddy.

Red or Norway pine (*Pinus resinosa*) has slender needles, dark green, 5 to 6 inches long, and two to the cluster. Cones are about 2 inches long, light brown, without prickles. The bark is reddish brown. It is a native of the Lake States, New York, northern New England and northern Pennsylvania, and is widely cultivated there in plantations. Older trees are valuable for wood products and ornamentals.

White spruce (*Picea glauca*) has incurved, sharp-tipped, blue-green needles, 4-angled, $\frac{1}{2}$ to 1 inch long. When crushed in the fingers, the needles produce a disagreeable odor. The twigs are hairless. The cones are slender— $1\frac{1}{2}$ to 2 inches long, pale brown, and shiny. Cone scales are thin, flexible, and rounded, with a smooth margin. The bark is gray or reddish brown and thin. This tree's natural range is slightly north of that of red pine.

White (or concolor) fir (*Abies concolor*) grows into a very desirable Christmas tree. Since it is native to the West and does not do well in eastern climates, its use is confined largely to the western



Black spruce.
(About one-third natural size)

F-54016



Eastern redcedar.
(About one-quarter natural size)

F-512521



Red or Norway pine.
(About one-third natural size)

F-512523



White spruce.
(About three-quarters natural size)

F-54244



White (or concolor) fir.
(About one-half natural size)

F-19409-A

U.S. Its needles are flattened, irregularly arranged, mostly curving or spreading upward and outward, $1\frac{1}{2}$ to $2\frac{1}{2}$ 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 and smoothish. (In the trade, the name white fir is often used also for grand fir.)

Eastern and western white pines (*Pinus strobus* and *Pinus monticola*, respectively) are very much alike and can be grown into very desirable Christmas trees with proper management. The needles of both are soft to the touch, dark blue green in color, with five needles to the cluster. The needles of the eastern white pine are very slender and flexible, $2\frac{1}{2}$ to 5 inches long, and the cones are long stalked, 4 to 8 inches long, yellow brown, with thin rounded scales. The needles of the western

white pine are stout, 2 to 4 inches long, and the cones are much like eastern white pine except 5 to 10 inches in length. The bark of both species is grayish green to dark green, thin and smooth on young trees.

Norway spruce (*Picea abies*) was introduced from Europe so long ago that it has had time to reproduce itself through several generations. Its needles are 4-angled, dark green, and about $\frac{3}{8}$ 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.

Virginia pine (*Pinus virginiana*) is common in several eastern states, from New Jersey to northern Alabama. Usually it is inexpensive. Since the needles give off a pleasing odor, many people prefer it for indoor use. Its needles are two in a cluster, stout, twisted, $1\frac{1}{2}$ to 3 inches long, and



White pine.
(About one-half natural size)

F-512688



Norway spruce.
(About two-thirds natural size)

F-490796

grayish or yellowish green. The twigs are purplish. 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.

Southern pines include five species — **longleaf**, **slash**, **loblolly**, **pitch**, and **shortleaf**. They grow in the Southeastern States and are largely local-trade Christmas trees. The needles are much 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 8 inches long, dull brown, and prickly. Its bark is dark orange brown.

The needles of **slash pine** (*Pinus elliottii*—formerly called *P. caribaea*) are stout, 8 to 12 inches long, dark green, 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.

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 with stiff, sharp prickles. The bark is reddish brown.

The needles of **pitch pine** (*Pinus rigida*), are stiff, 3 to 6 inches long, dark yellow green, and three in a cluster. The cones are short and broad—1½ to 3 inches long, light brown, shiny, with small prickles. The cones often remain



Virginia pine.
(About one-half natural size)



Red spruce.
(About two-thirds natural size)

on the branches several years after opening.

The **shortleaf pine** (*Pinus echinata*) has the largest natural growing range of all the southern pines. Its needles are two and three to the cluster, slender, dark blue green, 2½ to 5 inches long. The cones are small, 1½ to 2½ inches long, dull brown, with small prickles. The bark is reddish brown.

Red spruce (*Picea rubens*) Christmas trees can be easily con-

fused with black spruce and white spruce, both previously mentioned. All are northeastern species. Red spruce needles are 4-angled, dark green and shiny, and about ½ inch long. The twigs are rather stout and more or less hairy. Cones, if present, are 1¼ to 1½ inches long, light reddish brown, and shiny, the stiff scales with rounded edges smooth or slightly toothed. The bark is reddish brown, thin, and irregularly scaly.

WHERE DO U.S. CHRISTMAS TREES GROW?

All 50 States produced some Christmas trees in 1964. Interest in this phase of land use is growing steadily. For example, a few years ago there were practically no Christmas tree plantations in North Dakota, whereas now almost every county has some. The northern tier of States bordering Canada produces most of our Christmas trees. The most complete figures for any State, dating back to 1942, are available from Montana.

In 1964 most of the trees were still being cut from forested lands where they grow naturally, but suitable wild trees are becoming scarcer, and plantations are furnishing a rapidly increasing number and proportion of trees for the market. Plantations provided almost half (44 percent) of the total in 1964. More good-quality trees can be produced in plantations because growing conditions and

the selection of growing stock can be closely controlled. Many new plantations are being established all over the country every year. More wild lands are now being managed for improved Christmas tree production. Progress is also being made in developing new varieties of trees both by the Forest Service and independent growers.

Advice on Growing Trees

Information on establishing Christmas tree plantations, and the cultural management of natural or wild lands to produce better Christmas trees, can be obtained from State land-grant colleges and State conservation or forestry departments. To get advice on selecting Christmas tree planting stock, sources of planting stock, planting methods, care, management, and marketing of Christmas

trees, contact these sources or the local county agricultural agent, extension forester, or representative of the U.S. Forest Service or the Soil Conservation Service.

About 125 bulletins and leaflets are available from 40 of the 50 States. Also, 25 State Christmas tree associations covering 27 States offer such information. The address of the National Christmas Tree Growers' Association is 225 E. Michigan St., Milwaukee, Wis. 53202.

Lake States Lead in Production

The Lake States of Michigan, Minnesota, and Wisconsin led all regions in 1964 in Christmas tree production (see map, p. 19), harvesting about one-third of the U.S. total. Next, with one-fourth, were the Pacific Coast and North-western States (principally California, Oregon, Washington, Mon-

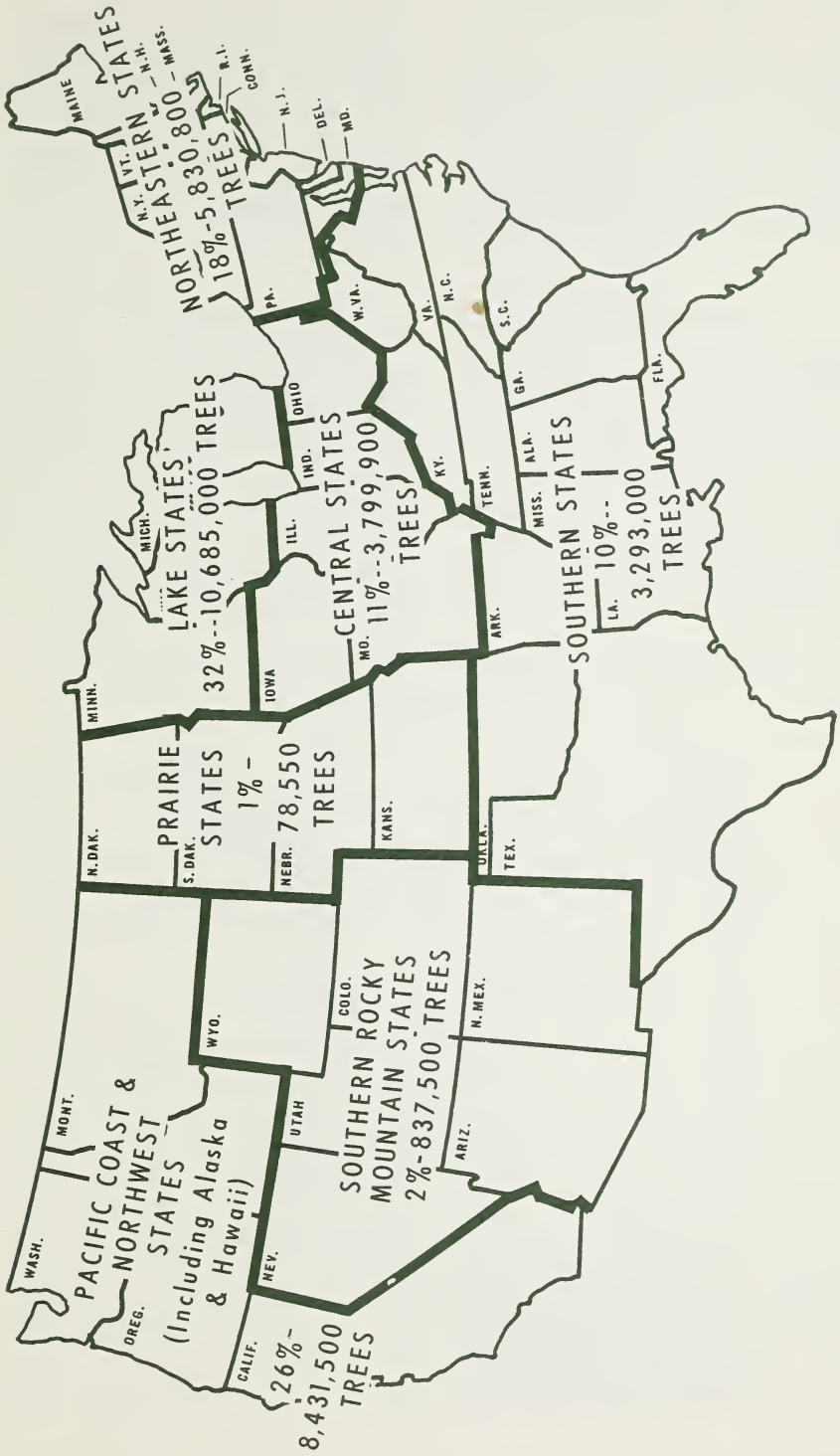
tana, and Idaho). Third, with more than one-sixth of the 1964 production, were the 11 North-eastern States (New England plus New York, New Jersey, Pennsylvania, Delaware, and Maryland).

Who Owns Christmas Tree Lands?

Of the nearly 33 million Christmas trees harvested in the U.S. in 1964, 91 percent came from privately owned land—43 percent from farms and 48 percent from nonfarm land, industry lands, tree farms, hobbyists' plantations, etc. Only 9 percent came from public lands such as National Forests and State and county lands. Over one-half of this 9 percent came from State and county lands. Table 1 shows the number and value of Christmas trees harvested from the National Forests from 1951 to date.

TABLE 1.—*Christmas trees harvested from National Forests*

Fiscal year	Number	Stump value	
		Total value	Per tree
1951-----	935,150	\$146,100	\$0.16
1952-----	796,800	153,100	.19
1953-----	886,600	189,800	.21
1954-----	1,030,200	207,300	.20
1955-----	959,650	207,900	.22
1956-----	859,400	214,100	.25
1957-----	941,150	260,250	.28
1958-----	864,200	258,400	.30
1959-----	928,750	278,700	.30
1960-----	913,350	357,450	.39
1961-----	917,050	383,900	.42
1962-----	928,400	415,100	.45
1963-----	967,400	420,650	.43
1964-----	859,200	444,650	.52



U.S. production of Christmas trees in 1964, by regions

A Many-Million-Dollar Industry

Supply and demand, species, quality, and the degree to which individual trees possess the desired characteristics all help determine prices of Christmas trees. According to the figures reported

from various sections of the country, stumpage value of the trees produced in the U.S. in 1964 was \$27.8 million, which at wholesale amounted to \$51.1 million. The retail value was \$114.6 million. Average quality of trees sold is improving steadily.

MANY TREES COME FROM CANADA

Many Christmas trees used in the United States are not grown in this country. Practically all of our imported trees come from Canada. The peak years for annual imports (table 2) were 1955, 1956, and 1957, each showing over 12 million trees shipped in. In

1964 about one-fifth of the Christmas trees used in the United States were grown in Canada, compared to one-third in 1955. The price per tree at U.S. points of entry has doubled since 1950—while the imports have slipped by one-third in the past 5 years.

TABLE 2.—United States imports of Christmas trees ¹
(All from Canada unless otherwise noted.)

Year	Number	Total value	Wholesale value price per tree ²
1950-----	9,081,600	\$3,090,300	\$.34
1951-----	9,748,200	3,679,550	.38
1952-----	11,555,750	4,761,900	.41
1953-----	11,035,800	4,891,550	.44
1954-----	10,928,250	4,727,600	.43
1955-----	12,409,600	5,659,000	.46
1956-----	³ 12,540,700	6,058,000	.48
1957-----	⁴ 12,033,350	6,254,550	.52
1958-----	⁵ 9,390,350	5,306,400	.57
1959-----	11,868,600	7,051,050	.59
1960-----	10,688,600	6,413,050	.60
1961-----	⁶ 9,243,500	5,779,800	.62
1962-----	10,104,000	6,470,650	.64
1963-----	8,761,100	5,986,450	.68
1964-----	⁷ 7,968,450	5,396,300	.68

¹ Compiled by Forest Products Division, BDSA, U.S. Department of Commerce.

² Average price at U.S. points of entry.

³ 3,432 from United Kingdom.

⁴ 700 from United Kingdom.

⁵ 1,600 from United Kingdom.

⁶ 1,000 from West Germany.

⁷ 4,330 from Mexico.

Some Christmas tree dealers in the U.S. own or lease forested areas in Canada for Christmas tree production. At one time practically all the Canadian trees came from wild lands, but as such trees became scarce, plantations closer to markets were established there also.

The 1964 U.S. production of nearly 33 million trees, added to the 1964 imports, made nearly 41 million trees available for the U.S. at the holiday season (table 3).

U.S. exports are small. Since there were then 47.4 million families in this country, enough Christmas trees were sold to supply 86 percent of the homes. However, many of these trees are used in commercial and public buildings. The total number of trees increased steadily from 1948 to 1962, but slipped 6 percent (over 2½ million trees) from 1962 to 1964, with a sharp decline in imports of Canadian trees.

TABLE 3.—United States use of Christmas trees

Year of survey	Number of families in U.S.	Christmas trees used			
		U.S. production	Total consumption	Imports ¹	
				Total	Consumption
1948.....	37,237,000	21,450,400	29,382,800	7,932,400	<i>Percent</i> 27
1955.....	41,934,000	25,381,200	37,790,800	12,409,600	33
1960.....	45,062,000	31,361,500	42,050,100	10,688,600	25
1962.....	46,341,000	33,383,000	43,487,000	10,104,000	23
1964.....	47,436,000	32,956,300	40,924,700	7,968,400	19

¹ Nearly all from Canada.

HARVESTING THE TREES

The fall months are the busy ones in the Christmas tree industry. During the summer and early fall the operators locate the trees, arrange for harvesting contracts, canvass the market to obtain estimates on demand, line up the necessary woods labor, lay plans for transportation, and the like. Whenever possible, harvesting is done in late November and early December, to insure

fresh-cut trees for the consumer. However, snow or difficult road conditions in some areas require that the trees be cut several weeks earlier. The trees must be selected, cut, moved to a woods concentration yard, sorted, graded, and often tagged. Then they are bundled, butt-trimmed, hauled to a shipping center, and transported to market centers.

Other Christmas Greenery

Thirty-two of the 50 States reported harvesting greenery in 1964 for use as Christmas decorative materials, wreaths, door sprays, roping, yule logs, etc. The 17 million pounds marketed sold for over a half million dollars, an average of nearly $3\frac{1}{2}$ cents per pound. This Christmas decorative market benefits rural people, offering a profitable use for branches of the lower quality trees and providing handicraft employment.

Farmers contribute a great deal to the Christmas tree industry, not only in selling Christmas trees from their own lands, but also in adding to the labor supply. Many farmers favor this forest crop because of the good returns for their labor, the short period from planting to harvest, and the low capital investment n e e d e d. Moreover,

the harvest season interferes little with other farming activities. If farmers are unable to do their own marketing, they can sell the trees to jobbers or contractors for roadside or railsiding delivery. In Montana the sale of Christmas trees adds over \$1 million annually to farm incomes. A carload on a rail siding in Montana represents about 80 to 100 man-hours of work in harvesting.

The Harvesting Procedure

A typical Christmas tree operation will find the harvesting crews in the woods by November and occasionally earlier. Light ax, pruning saw, or bow saw are the common tools used to cut the stems. The trees are carried or dragged by hand or occasionally hauled by horse or tractor to the concentration yard in the woods, where they are kept as moist as



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Bundling Douglas-fir Christmas trees in a commercial yard at Darby, Mont.

possible. One man can cut and yard about 200 trees per day. A wooden frame or rack is used to hold the trees while they are tied into bundles. Bundling makes trees easier to ship and prevents excessive drying. A bundle may have 10 trees 3 to 4 feet in height, or 5 trees 5 to 6 feet in height, or only 1 tree 11 to 12 feet in height. While in the rack, the butt ends of the trees are trimmed for neat appearance and ease in handling. The trees must be hauled out before the depth of snow becomes an obstacle.

Evergreens used for the Christmas season vary in height from a foot or two (table size) to a large street or park tree, which requires special equipment for handling. The most common sizes for homes are 5 to 7 feet high, while schools,

churches, business houses, and hotels seek the larger sizes according to the available space.

Some Minnesota operators harvest trees nearly all year. They put the trees in cold storage soon after harvesting, cutting to size, and processing—which includes dipping in paint, drying the paint, trimming the butts, and packaging.

From the woods concentration yards, the bundles of trees are loaded on trucks or sleighs for transportation to the rail or truck shipping points. Trees shipped by rail are usually loaded into boxcars or flatcars. A carload, depending on size and species, ranges from 1,000 to 5,000 trees. Cars loaded in Montana average 4,750 trees. A 3-ton truck can haul 500 to 1,200 trees.

COMMERCIAL DISTRIBUTION OF TREES

About a dozen companies are responsible for most of the assembling and shipping of Christmas trees. Company representatives contract with woodland owners, such as farmers, or contract with growers for roadside or railroad-siding delivery. It is easy to get in and out of the Christmas tree business and this situation often proves a handicap to permanent operators. In years when the business venture appears profitable, some irresponsible individuals trespass on others' land and remove trees without permission. Some States are controlling

this through rigid trespass laws. Property rights should be respected for Christmas trees growing even on naturally wooded or pasture areas, though the trees may seem to be abundant.

Means of Transportation

How are Christmas trees shipped to market centers? In 1964 about 81 percent were moved by auto trucks and trailers. Rail transportation handled 17 percent, while the remaining two percent were moved by auto, boat, and airplane. Trucks are used



F-463501

Loading baled Christmas trees on a truck trailer by means of a conveyor. State of Washington.

where most of the hauling is short to medium distances. Montana, a major producing State located far from major markets, sends a large proportion by rail.

At the market centers in cities, the trees are distributed by jobbers and wholesalers. Hence, the organization for distribution is similar to that for other semiperishable commodities. Individual trees are sold at retail outlets, such as especially established Christmas tree lots, department stores, grocery stores, automobile service stations, and stands at farmers' markets. A few operators have made available packaged Christmas trees, natural or painted, with or without decorative trimmings,

designed for mail-order and gift-package sales.

Choose and Cut

Where the Christmas tree plantations are near population centers, customers often prefer to get their trees on a "choose-and-cut" basis, which is proving popular in California. This method of marketing gives the grower the best possible assurance of selling every tree cut. And when a family picks a fresh tree this way, the Christmas tree tradition becomes more meaningful to all members. Such a family project could help bring home a conservation message to both young and old.

U.S.D.A. GRADES FOR CHRISTMAS TREES

At the request of the Christmas tree industry a decade ago, the Consumer and Marketing Service of the U.S. Department of Agriculture established voluntary standards for Christmas trees. These became effective November 1, 1957, and were revised June 15, 1962. Although the standards are used primarily by the wholesale trade, anyone can use them to judge the quality of a tree. The standards describe various levels of tree quality and serve as a common language to make long-distance trading easier.

Three standard grades of Christmas trees were developed

and their use is permissive—not compulsory. All trees that qualify for a U.S. grade must be:

Fresh—with pliable, firmly attached needles and only slight shattering.

Clean or fairly clean—at least moderately free of moss, lichen, vines, and other undesirable foreign matter.

Healthy—with a fresh, natural appearance characteristic of the species.

Well-trimmed—cleared of all barren branches below the first whorl, and smoothly cut at the butt.

The three grades are: "U.S.



F-463486

Attaching identifying tags to Christmas trees in a commercial yard near Shelton, Wash.

Premium"; "U.S. No. 1 or U.S. Choice"; and "U.S. No. 2 or U.S. Standard." "Culls" are individual Christmas trees which fail to meet the requirements of the lowest grade.

A copy of the 12-page leaflet, "United States Standards for Grades of Christmas Trees," may be had free from the Consumer and Marketing Service, U.S. De-

partment of Agriculture, Washington, D.C., 20250.

It would be a desirable practice for growers or producers to attach a tag to each tree giving the name and address of the producer or handler, name of the species, and grade and height of the tree. The tag should also contain a statement that the tree was cut according to recognized good forestry practices.

IS THE HARVEST OF CHRISTMAS TREES WASTEFUL?

Some people are troubled about evergreens being cut for Christmas trees. President Theodore Roosevelt, an ardent conservationist, felt this so keenly that he at first forbade their use in the White House shortly after 1900. He called it wasteful. One year, however, his sons, Archie and Quentin, smuggled one in and set it up in Archie's room. When the distressed President discovered it, he consulted his close friend and advisor on conservation measures, Gifford Pinchot of Pennsylvania, who had become chief of the Division of Forestry in 1898. (The Division became the U.S. Forest Service a few years later.) 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, continuing the custom begun by President Pierce in 1856.

Dense Stands Need Thinning

A reasonably well-stocked stand of young Christmas trees established by nature can produce, with good management, a harvest of at least 50 trees per acre annually. Many young forest stands are so thick that periodic thinnings are necessary as the trees develop 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. 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 tells cutters 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."

It is important to realize that Christmas trees are the only practical crop on many forested areas. 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. 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 used at all. On certain lands of this class owned by the State of Minnesota, over a million trees are harvested every year.

Supply Is Plentiful

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.

When there appears to be a surplus of Christmas trees on some markets of the country, the question is sometimes raised again as to whether the tradition is a wasteful one. It would of course be desirable to balance supply exactly with demand, but that is difficult. In this respect the marketing of Christmas trees shares the same hazards as the marketing of many other semi-perishable commodities.

Some of the larger dealers, when they find one city market oversupplied, quickly reship quantities to other markets reported to have shortages. The Federal-State Market News Service, in which USDA and State departments of agriculture cooperate, offers data on market volume and wholesale prices helpful in this respect. Daily price reports at major centers are issued during the marketing season.

Since the Christmas tree is a recognized marketable product of our soil and is in plentiful supply, there is every reason to harvest a crop each year sufficient to meet the needs of American homes, and add to the joy of the holiday. It is one of nature's greatest gifts from the great outdoors for our use. There is ample forest land to grow all the Christmas trees we need. Christmas tree production is consistent with good forest, soil, and water conservation, whether the trees are grown on natural forest lands or in established plantations.

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. If these rules are followed, trees should remain in safe condition for 10 days to 2 weeks.

1. Select a fresh, green tree. (If the needles are turning brown, the tree has already dried out and should not be used.)

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.

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.

Investigation by the Forest Products Laboratory of the U.S. Forest Service 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.

Tree Disposal Customs

When its purpose is served, the tree should be disposed of properly. A Twelfth Night ceremony, in which the Christmas trees, wreaths, and boughs are collected from neighborhood homes and burned in a blaze of glory, is observed in some American cities—a fitting end for a tree of tradition and sentiment—much better than discarding it on a backyard trash heap. This custom may derive from the time when the early Christians celebrated the feast of the Nativity for 12 days, placing special emphasis on the last or Twelfth Day.

Community burning of used trees is also common in Germany. Through the centuries various peoples have observed the custom in various ways; often rites to insure good crops were involved.

Bird lovers often stand the tree in the yard after Christmas and attach food, such as suet, to its branches. The tree thus serves too as part of the winter landscape. The needles and small branches can be used as a mulch for many plants, such as azaleas. In areas where erosion and gully-ing are causing soil damage, the used Christmas trees may help to keep soil in place.

NATIONAL CHRISTMAS TREES BEGUN IN 1923

Probably the best known Christmas trees are the ones lighted annually by the President of the United States at appropriate ceremonies in Washington, D.C. This Christmas Eve program was first begun in 1923 when a fir tree shipped from Vermont was set up on the steps of the Capitol. In 1924, a 35-foot living Norway spruce provided by a New York nursery under the supervision of the American Forestry Association, was planted in the square south of the Treasury, near the White House. This tree was dedicated to the Nation as a National Living Christmas Tree. Later it was replaced with another living tree of like size and species. In 1934, the ceremonies centered

around a living Norway spruce in Lafayette Park north of the White House. From 1941 to 1953 the National Christmas Tree was one of two oriental spruces thriving on the south lawn of the White House. By coincidence, 9 of the last 12 cut trees supplied by various States have also been spruces.

National Trees Supplied by States

Beginning in 1954, various States have supplied the National Christmas Tree, which is set up on the Ellipse between the White House and the Washington Monument in Washington, D.C. The President of the United States, at a prearranged ceremony, presses the button to turn on its lights.

The States are also represented by 50 smaller trees, all set up on both sides of a promenade leading to the big tree.

The species of tree used each year for the national tree, and the States that supplied them, are as follows :

<i>Year</i>	<i>State</i>	<i>Species of tree</i>
1954.....	Michigan.....	Balsam fir.
1955.....	South Dakota.....	White spruce.
1956.....	New Mexico.....	Engelmann spruce.
1957.....	Minnesota.....	White spruce.
1958.....	Montana.....	Engelmann spruce.
1959.....	Maine.....	White spruce.
1960.....	Oregon.....	Douglas-fir.
1961.....	Washington.....	Douglas-fir.
1962.....	Colorado.....	Blue spruce.
1963.....	West Virginia.....	Red spruce.
1964.....	New York.....	White spruce.
1965.....	Arizona.....	Blue spruce.

The National Park Service, Department of the Interior, Washington, D.C., and the Christmas Pageant of Peace, Inc., 1616 K Street NW., Washington, D.C., cooperate in arranging the selection of the National Christmas tree as well as in developing related facilities and programs.

A living Christmas tree in Hilton Park, Wilmington, N.C., has

the greatest limb spread of all trees now being used in the United States for this purpose. It is not a conifer at all, but a 300-year-old live oak, approximately 90 feet tall, with a branch spread of 110 feet and a trunk circumference of 15 feet. At Christmas time it displays 7,000 colored lights and 6 tons of Spanish moss.



TABLE 4.—U.S. Christmas tree production for 1948, 1955, 1960, 1962, and 1964 by species¹

Species	1964			1962			1960			1955			1948		
	No. of trees	Rank	Per cent of total	No. of trees	Rank	Per cent of total	No. of trees	Rank	Per cent of total	No. of trees	Rank	Per cent of total	No. of trees	Rank	Per cent of total
Scotch pine.....	(Thou- sands) 9,000	1	27	(Thou- sands) 7,092	1	21	(Thou- sands) 5,434	2	17	(Thou- sands) 1,560	5	6	(Thou- sands) 807	6	4
Douglas-fir.....	7,252	2	22	6,876	2	20	7,329	1	23	7,162	1	28	5,831	2	27
Balsam fir.....	4,108	3	12	5,065	3	15	5,142	3	16	6,006	2	24	6,435	1	30
Black spruce.....	2,470	4	7	1,739	7	5	1,566	6	5	2,896	4	11	2,363	3	11
Eastern redcedar.....	2,326	5	7	2,247	5	7	2,473	5	8	3,086	3	12	2,129	4	10
Red or Norway pine.....	2,004	6	6	3,199	4	10	3,222	4	10	803	7	3	156	13	1
White spruce.....	864	7	3	1,822	6	5	1,502	7	5	858	6	3	990	5	5
White fir ³	745	8	2	869	8	2	658	8	2	441	9	2	335	10	2
Eastern and western white pine.....	741	9	2	662	10	2	618	9	2	286	11	1	46	15	(²)
Norway spruce.....	544	10	2	687	9	2	561	10	2	448	8	2	303	11	1
Virginia pine.....	369	11	1	185	17	(²)	280	14	1	267	12	1	370	9	2
Grand fir ³	317	12	1	268	13	1	207	15	1	---	---	---	35	16	(²)
Southern pines (5 species).....	214	13	(²)	342	11	1	305	12	1	231	13	1	653	7	3
Red spruce.....	203	14	(²)	426	11	1	525	11	2	291	10	1	594	8	3
Pinyon pine.....	192	15	(²)	233	16	1	294	13	1	163	15	(²)	3	20	(²)
Red fir (Shasta and Calif.).....	187	16	(²)	173	18	(²)	153	17	(²)	86	16	(²)	165	12	1
Lodgepole pine.....	169	17	(²)	141	20	(²)	94	21	(²)	12	14	1	---	---	---
Arizona cypress.....	165	18	(²)	240	15	1	158	16	(²)	---	---	---	20	17	(²)
Concolor fir ³	151	19	(²)	163	19	(²)	142	18	(²)	---	---	---	---	---	---
Jack pine.....	127	20	(²)	124	22	(²)	140	19	(²)	78	17	(²)	15	18	(²)
Ponderosa pine.....	107	21	(²)	3	29	(²)	21	26	(²)	---	---	---	---	---	---
Noble fir.....	96	22	(²)	10	27	(²)	37	23	(²)	12	21	(²)	---	---	---
Alpine fir.....	93	23	(²)	67	23	(²)	31	24	(²)	12	20	(²)	148	14	(²)
Austrian pine.....	86	24	(²)	246	14	1	77	22	(²)	---	---	---	---	---	---
Other.....	427	---	1	505	---	1	393	---	1	284	---	1	53	---	(²)
Total.....	32,956	---	100	33,383	---	100	31,362	---	100	25,369	---	100	21,450	---	100

¹ These surveys were compiled cooperatively by the Federal Extension Service and Forest Service, U.S. Department of Agriculture; State Extension Services; State Departments of Agriculture; trade groups, marketing organizations, etc.

² Less than 1 percent. ³ White fir listing includes some grand fir and concolor fir data which were not gathered separately.



This white spruce tree from New York State was the
National Christmas Tree in 1964.

NATIONAL PARK SERVICE PHOTO

U.S. GOVERNMENT PRINTING OFFICE: 1966 O-795-515

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C., 20402 - Price 15 cents

4 Revised April 1966 5C