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U. S. DEPARTMENT OF AGRICULTURE

FARMERS' BULLETIN No. 1664

CHRISTMAS TREES AS A CASH CROP ▲ FOR THE FARM ▲



CHRISTMAS TREES as a side-line crop may prove profitable in many localities, both as a source of cash return and as a means of utilizing waste land on the farm. If desired, such production may readily be combined with forest planting for timber production.

Remoteness from large natural supplies of Christmas trees and nearness to good markets are essential to the success of the venture.

The spruces, true firs, Douglas fir, deodar, and eastern red cedar are suitable for Christmas-tree plantations.

Where a market exists for table trees, first returns are possible within 1 to 3 years after the plantation is established. The main crop, with cultivation, matures ordinarily about 7 or 8 years after planting.

The Christmas-tree crop is not perishable and can be held over from one year to the next, if no cutting is done until orders are received.

CHRISTMAS TREES AS A CASH CROP FOR THE FARM

By F. H. EYRE, *Silviculturist, Branch of Research, Forest Service*

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CHRISTMAS TREES A PROFITABLE SIDE LINE ON THE FARM

THE GROWING of Christmas trees as a crop affords a profitable side line for the farmer in some sections of the United States. The crop, in addition to being an added source of revenue, is sold at a time of year when extra income is particularly acceptable.

A market for Christmas trees exists in every town and city, and with urban growth a corresponding increase in the demand for trees may be expected. At present most of this demand, and especially that in the cities, is supplied by natural-grown trees harvested from the extensive timberlands of the North and West. These trees, cut weeks and even months before Christmas, are bundled tightly together and shipped long distances to market, with consequent damage to many trees. As the trade is largely unorganized and speculative, markets during some years are glutted and in others are insufficiently supplied. This kind of marketing entails much waste.

A shapely home-grown tree is far superior to one shipped in from a distance. If cut and delivered promptly a short time before Christmas it will retain its fragrance and foliage throughout the holiday season, unlike the shipped-in tree which is apt to shed its needles as soon as it is brought into a warm room.

A few farmers have already recognized the superiority of home-grown trees and the opportunities for selling them. As a result, some trees are now produced on farms on a crop basis, principally for local sale. The indications are that this practice could be extended in many localities.

The problem of utilizing idle farm land can be solved in part by growing Christmas trees. (Fig. 1.) On many farms there are fields exhausted by years of cropping, land which is eroding or washing, odd corners of tillable land not handily situated for culti-

vating in regular field crops, or excess pasture land. In proper locations small areas of such lands, if planted to Christmas trees before they are reclaimed by brush and briars, can be made to yield a return instead of becoming a liability.

The growing of Christmas trees may be combined with forest planting for timber production on larger areas. Christmas trees can either be interplanted with those desired in the final crop of timber or, where the species is suitable, can be planted more densely than would otherwise be advisable and thinned when large enough to sell.

The production of Christmas trees on the farm is less difficult than the growing of many garden and truck crops. Considerable care is required in starting the plantation but, once established, very little time need be given to make it a success. Cultivation can be



FIGURE 1.—Idle land can be used for growing Christmas trees

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carried on at odd times without interfering with other farm work, and harvesting and marketing take place when most other farm business is at a standstill.

WHERE THE FARM SHOULD BE LOCATED ¹

Though it is true that a market for Christmas trees exists in every town and city, the distance of these markets from the farm, the possibility of strong competition from wild or natural-grown trees, and the presence of similar plantations should be carefully considered before a plantation is started. A farm located within wagon or truck hauling distance from a large town or city and remote from an extensive supply of wild trees would appear to be

¹ Sometimes it becomes necessary to establish quarantines against the spread of insect pests or fungous diseases and to limit interstate shipment of trees and nursery stock. As these quarantines frequently follow State boundaries, it is desirable to locate the plantation in the State where the markets for the product are found. The Plant Quarantine and Control Administration, U. S. Department of Agriculture, Washington, D. C., can furnish up-to-date quarantine information at any time.

well situated so far as a market is concerned. The principal sources of wild trees of the species most in demand for Christmas display, viz., the spruces, balsam fir, and Douglas fir, are northern New England and New York, the northern part of the Lake States (Minnesota, Wisconsin, and Michigan), Canada, and the Pacific Northwest. Other species, such as northern white pine, the southern pines, hemlock, red cedar, and redwood, are used locally to a variable extent, depending upon accessibility and abundance. Many desirable locations for producing Christmas trees are to be found in the Eastern and Central States.

KIND OF TREES TO PLANT

The kind of tree to plant is one that is attractive for Christmas use, is suited to the locality where it is to be grown, and is capable of making good growth. The ideal Christmas tree is symmetrical, with a dense, compact crown, possesses sufficient stiffness of branches to hold up decorations, and is fragrant and retentive of its foliage when brought into a warm room. The spruces and true firs combine many of these qualities. Other good trees are the Douglas fir, deodar, and eastern red cedar.

The following are characteristics of some of the species suitable for Christmas trees:

Norway spruce (*Picea excelsa*) (fig. 2, A), introduced into North America many years ago from Europe, has been grown in many parts of the United States as an ornamental tree. It is easy to propagate, makes rapid growth, and has a wide range of adaptability. Because of these qualities and of the fact that planting stock may usually be purchased more cheaply than that of other suitable species, Norway spruce has much to recommend it for Christmas-tree planting, even though its color and form are somewhat inferior to those of slower-growing trees.

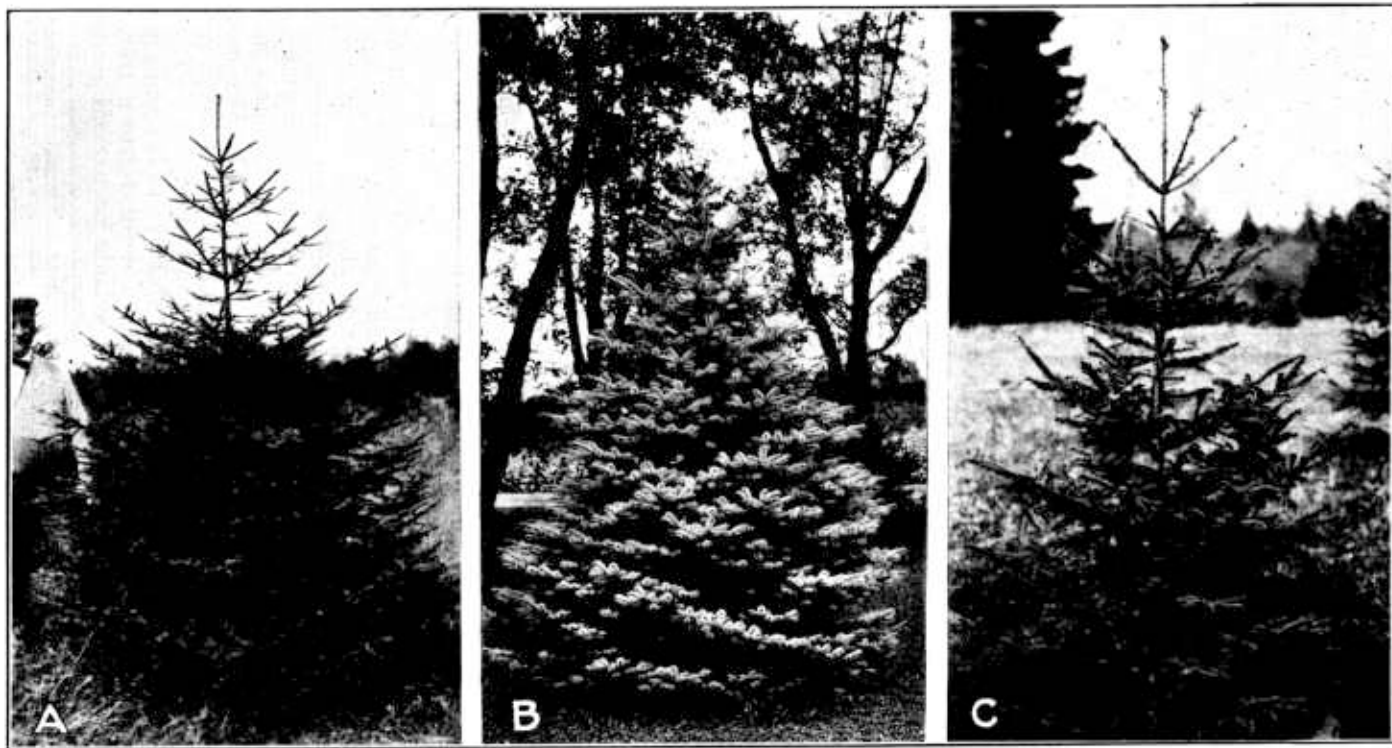
Blue spruce (*Picea pungens*),² which occurs naturally in the Rocky Mountains, is a beautiful tree with a particularly dense, well-formed crown. (Fig. 2, B.) It is not difficult to cultivate but is slower growing than the Norway spruce. Its striking blue color and dense foliage make it very popular and especially desirable for sale as a living Christmas tree.

White spruce (*Picea glauca*) (fig. 2, C), which grows naturally in the extreme northern part of the United States, is well adapted to planting where the climate is severe. It grows less rapidly than Norway spruce but is frequently superior in color and shape.

White fir (*Abies concolor*), a tree of the western United States, has been widely planted as an ornamental throughout the East and is suitable for Christmas-tree planting. (Fig. 3, A.) For eastern planting, stock from Rocky Mountain seed should be selected rather than that from the Pacific coast, to insure hardiness.

Balsam fir (*Abies balsamea*) is a beautiful tree as it occurs in the north woods and is widely marketed as a natural-grown tree. It is, however, not so successfully grown outside its natural range as

² The ordinary blue spruce grown from seed varies a great deal in color and should not be confused with the Koster blue spruce. This variety, which always has a light-bluish cast, is usually propagated by grafting.



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FIGURE 2.—Desirable species for Christmas-tree planting: A, Norway spruce; B, blue spruce; C, white spruce



FIGURE 3.—Desirable species for Christmas-tree planting: A, White fir; B, deodar; C, eastern red cedar

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are some of the other firs. Because of this fact and the marked tendency of its lower limbs to lose their foliage, especially when crowded by rank-growing weeds, it is not particularly desirable for Christmas-tree planting.

Deodar (*Cedrus deodara*) (fig. 3, B), a tree brought to the United States from Asia, has been extensively and successfully planted. It is very graceful in appearance and makes a good Christmas tree. It is particularly well adapted for growing on the Pacific coast and in the warmer parts of the East and Middle West.

Douglas fir (*Pseudotsuga taxifolia*) (fig. 4), which is distributed widely in nature throughout the western mountains, should be classed with the species suitable for Christmas-tree planting. For eastern planting, stock grown from Rocky Mountain seed instead of that from the Pacific coast should be insisted upon to insure hardiness. Moreover, the Rocky Mountain form of Douglas fir is more disease resistant than the Pacific coast form when planted



FIGURE 4.—Douglas fir is suitable for Christmas-tree planting

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in the East. This tree is somewhat slower in growth rate than Norway spruce but is superior in form and color.

Eastern red cedar (*Juniperus virginiana*) (fig. 3, C), whose natural range extends from Canada to the Gulf and from the Atlantic to the Great Plains, is suitable for Christmas-tree planting but is a slow grower except in the warmer parts of the country.³ It is better adapted to the southern part of the Plains area than some of the other species mentioned.

ESTABLISHING THE PLANTATION

SOURCE OF PLANTING STOCK

Stock may be obtained from reputable nurserymen or in exceptional cases may be grown on the farm. Local forestry agencies

³The eastern red cedar is the alternate host for the apple rust. Therefore it should not be planted in sections where apple growing is an important industry.

(see list on p. 15) are best able to furnish information as to the cheapest and best places to buy planting stock or seed and can give advice regarding the species best adapted to the locality in question. It is recommended that before establishing the plantation the nearest forestry agency be consulted as to the feasibility of the undertaking.

Although it is possible to grow conifer planting stock on the farm from seed, it is not an easy undertaking. Conifer seedlings are very tender, need considerable care, and are susceptible to nursery diseases. Therefore, special precautions must be followed in order to insure success. For individuals interested in growing their own stock from seed, detailed information may be found in Farmers' Bulletin No. 1453, *Growing and Planting Coniferous Seedlings on the Farm*.⁴

KIND OF STOCK TO USE

It is advisable in establishing the plantation to begin with good, strong 4-year-old transplants—stock that has been in the seed bed 1 or 2 years and in the transplant bed 2 or 3 years—in order to hasten the date when a cash return may be realized. Two-year-old seedlings, however, may be obtained at a much lower price and, after growing in transplant rows for 2 years, may be set out in the plantation. The seedlings should be placed 3 or 4 inches apart in some convenient place for tending, such as the vegetable garden. Occasional watering and cultivation make for the development of sturdy, well-rooted transplants. This method is especially desirable for growing replacement stock before harvesting begins.

SELECTION OF SITE

Almost any soil of good texture will grow conifers, but the greatest success is obtained where the extremes of coarse sands and heavy clays are avoided. Coarse sands during drought periods dry out excessively, and heavy clays heave with frost action and sometimes uproot many plants the first season after planting. Swampy soils are also undesirable. If the Christmas-tree project is to be combined with a general planting program for the farm it is well to keep in mind that, as a rule, spruces and firs require better quality soils than do the pines, particularly the hard pines such as Norway, pitch, or shortleaf.

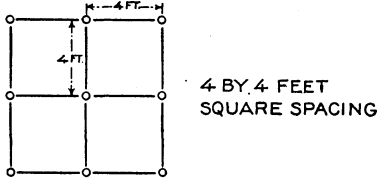
The choice of rough land or land that can be cultivated depends largely on whether the plantation is to be used for Christmas trees exclusively or whether a timber crop is the ultimate aim. In the first case tillable land is to be preferred; in the latter it makes little difference because the Christmas trees are merely fillers which are to be removed when of merchantable size. Steep slopes subject to erosion should not be cultivated when used for Christmas-tree plantations. On moderate slopes cultivation should be along the contour and not up and down the hill, in order to keep soil erosion to the minimum.

Other things being equal, if the plantation is within sight of the house it is safer from theft than if on a remote part of the farm.

⁴ Obtainable free from U. S. Department of Agriculture, Washington, D. C.

PREPARATION OF SITE

If cultivation of the plantation is contemplated, it always pays to prepare the land for planting. Planting costs are lower, and weeds are kept down more easily the first year if the land has been fairly well prepared. Fall plowing followed by disk harrowing in the spring is ordinarily sufficient. In the Plains region or elsewhere where rainfall is scant, summer fallow is recommended in order that sufficient moisture may be stored in the soil to insure survival of the young trees. Where no cultivation is contemplated, either because of steep slopes or because the raising of Christmas trees is merely incidental to a reforestation project, preparation of the site before planting is not necessary.



SPACING

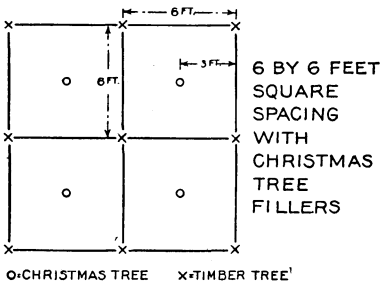
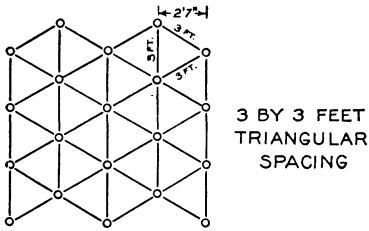


FIGURE 5.—Possible spacing arrangement

Proper spacing is essential to the development of well-formed trees. The spacing to use depends largely on the amount of land available and intentions regarding cultivation. If plenty of land is to be had, a 4 by 4 foot square spacing is recommended because it provides ample room for cultivation and good development of the trees. This will allow the planting of about 2,700 trees to the acre.

A triangular 3 by 3 foot spacing is well adapted to a timber plantation where thinnings for Christmas trees are contemplated. Such spacing allows 5,600 trees to be planted to the acre. Two-thirds to three-fourths of them may be taken out later as Christmas-tree thinnings, and still a sufficient number will be left to grow into timber. If

care be taken in thinning to leave the remaining trees evenly spaced, the growth rate of the timber plantation will be speeded up greatly and farm timbers produced in a much shorter time than would otherwise be the case.

Where pines or some other species not particularly desirable for Christmas trees are to be planted for timber production, spruces or firs may be grown as fillers. Square spacings 6 by 6 feet (1,210 to the acre) or 8 by 8 feet (681 to the acre) are commonly used for timber plantations. By filling in between the rows an equal number of Christmas trees can be grown on the same area. When of sufficient size to sell these may be removed, leaving the timber plantation correctly spaced for proper development. Figure 5 illustrates spacing arrangements.

PLANTING

Spring is usually a better time to plant than fall, although fall planting may be successfully undertaken when favorable moisture conditions prevail. Spring planting should be done after the frost is entirely out of the ground but before growth starts; fall planting, after rains have thoroughly moistened the soil but before the ground is frozen. When it is not possible to set out the plants as soon as they are received from the nursery, they may be stored a day or two if kept in a cool, damp place with the roots well packed in wet moss or similar material. When it is necessary to hold stock longer than this it should be "heeled-in" in a shady place; that is, the roots should be thoroughly packed with well-watered earth in a shallow trench.

It is also essential that the roots be kept moist while planting is taking place. Stock which has been dug and is awaiting planting should be covered with wet burlap or kept with the roots in water. Two men can work together to advantage in the planting operation, one to make the hole or slit with a mattock, spade, or dibble, and the other to carry the stock and set the plant. It is a good plan to carry the stock in a pail about one-fourth full of water. A hole should be dug with a mattock or a slit made with a dibble or spade, the roots carefully spread out with the fingers, fine dirt drawn around them, then coarser soil put on top. After setting the young tree, the soil around it should be thoroughly tamped with the mattock or foot. Care should be taken with spruce to set it no deeper than it grew in the nursery. Figures 6 and 7 illustrate the planting operation.

CULTIVATION AND CARE

As trees respond to cultivation and care much as annual farm crops do, it always pays to cultivate where slopes are not too steep or the soil too rocky. (Fig. 8.) Cultivated trees grow more quickly and also are more vigorous and losses due to drought and other causes are less among them. In the more arid sections where there is a deficiency of soil moisture, cultivation is especially needed. An experiment conducted at Michigan State College of Agriculture and Applied Science showed cultivated Norway spruce to be 59 per cent taller at the end of four years than trees that were not cultivated.⁵ Weeds, which in dense growths are apt to shade out and cause the loss of foliage on the lower branches and even to kill weaker trees, are effectively kept down by cultivation.

Cultivation three or four times each summer for the first two years is usually sufficient. The third year cultivation will probably pay if trees are spaced as much as 4 feet apart, but where spacing is closer it may cause injury to the roots. Thereafter, the cutting of large weeds and briars which appear to be choking the trees may be of benefit. Plantations may be cultivated at odd times when other farm work is not pressing.

Fertilization is not necessary if the soil is fairly good, but it will increase the growth of the plantation. It should, however, be dis-

⁵ Michigan Agricultural Experiment Station Special Bulletin 145, Christmas-Tree Plantations.

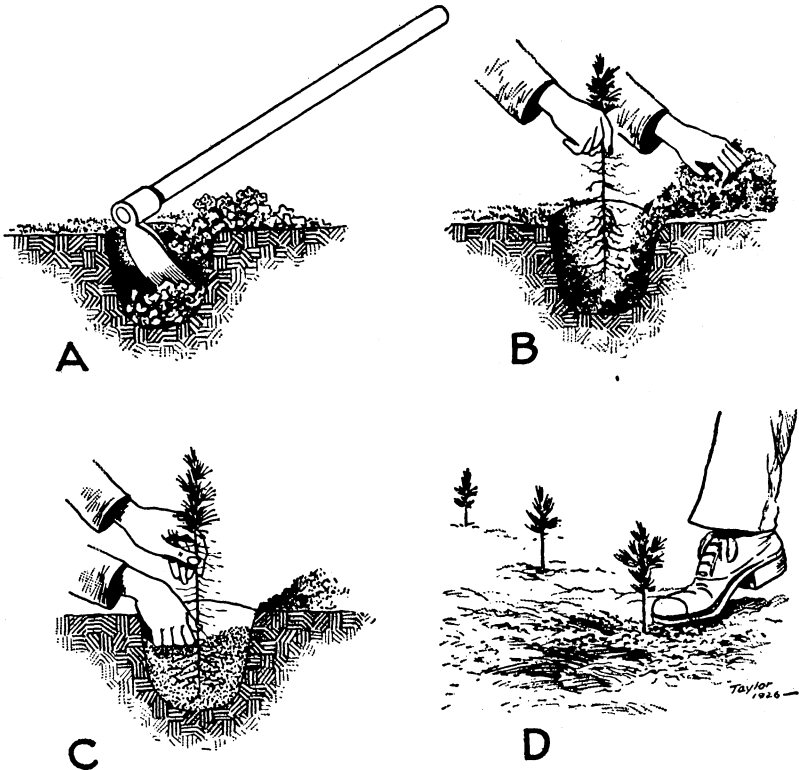


FIGURE 6.—Planting with the mattock: A, Dig hole large enough to spread the roots; B, partly fill the hole and pack the soil; C, pack the soil twice before filling the hole; D, firm the soil with sole of shoe and scrape loose soil or litter over the surface

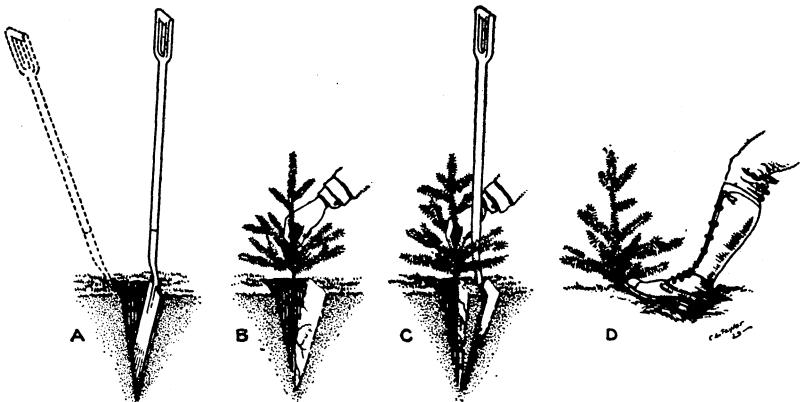


FIGURE 7.—Slit method of planting: A, Open slit with spade; B, insert tree and hold with hand until set; C, close slit by thrust with spade; D, close entire hole by thrust of heel

continued if the result is to force height growth at the expense of compactness of crown, thus causing the development of spindly trees. A tendency of trees to turn yellow ordinarily may be corrected by application of barnyard manure or a commercial fertilizer rich in nitrogen.

PROTECTION

Plantations need protection from fire, livestock, and insects and fungous diseases.

Fire, the arch enemy of the forest, is particularly disastrous to young trees. Dry grass carries fire readily and burns with sufficient heat to wipe out a stand of Christmas trees. Cultivation reduces the fire hazard materially by turning up the mineral soil and keeping down the grass and weeds. Additional protection can be given a plantation by plowing 8 to 12 furrows around it. This line should



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FIGURE 8.—It pays to cultivate the first two or three years where the slope is not too steep or the soil too rocky

be kept bare of vegetation by cultivation in order to be most effective. This simple precaution is especially important in plantations after cultivation has been discontinued and in areas where Christmas trees are being grown in conjunction with timber.

Though under certain conditions some classes of livestock may assist in keeping down the grass, animals are very apt to damage a plantation by trampling and browsing. For this reason it is desirable to keep them out. A fence that excludes livestock also reduces the danger of theft.

Although the species recommended for planting are reasonably free from pests, crops of Christmas trees, like other farm crops, run the risk of attack by insects and diseases. In case of attack by either, control measures in small cultivated plantations are distinctly feasible. As soon as any evidence of insect damage is noted, specimens of the insects and their work should be sent to the Office

of Forest Insects, Bureau of Entomology, Department of Agriculture, Washington, D. C., for identification. Recommendations for control of the insects will be made. The Office of Forest Pathology, Bureau of Plant Industry, Department of Agriculture, stands ready to perform a similar service when any disease enters the plantation.

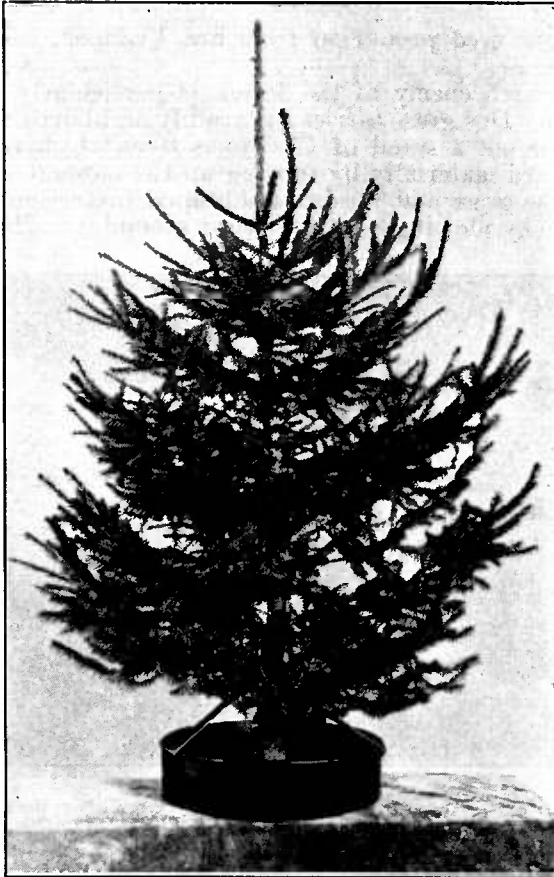


FIGURE 9.—Table trees are becoming more and more in demand. (Photograph by courtesy of the American Forestry Association)

In dealing with either insects or diseases, prompt action is essential in order to stamp out the pest before extensive damage occurs.

TIME REQUIRED TO GROW A CROP

Fortunately, there is no standard size to which Christmas trees must be grown before they become merchantable. With the increase in the number of apartments in the cities, there has developed a market for table trees from 1 to 3 feet tall or even smaller. (Fig. 9.) Trees begin to reach this size within 1 to 3 years after the plantation is established, provided 4-year-old stock was planted and cultivation practiced.

Although table trees are increasingly in demand, trees 4 to 7 feet tall are the sizes most readily sold. Under fairly favorable conditions, some Norway spruce trees in a plantation of that species reach this size 4 to 6 years after the plantation is started, provided good-sized stock, such as that recommended, was used and cultivation was practiced. The main crop should mature in 7 or 8 years. The other species may require 2 or 3 years longer. There are certain to be variations in growth between plantations, because of differences in soil, species, and climate. Even within a given plantation growth is apt to vary between wide limits.

This point is well illustrated in Table 1. The smallest tree was little more than 6 inches tall at the end of 4 years, whereas the largest was nearly 5 feet in height. The average tree was computed to be 2.1 feet in height. A large percentage of the trees in this



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FIGURE 10.—Within a given plantation growth is apt to vary between wide limits. Some trees are already merchantable in this 4-year-old plantation

plantation are already of suitable size to sell as living Christmas trees or small cut trees for table display. In 2 or 3 more years a goodly proportion of the stand should be large enough to sell for general Christmas use. Figure 10 illustrates the plantation for which the figures are given.

TABLE 1.—*Height of trees in Christmas-tree plantation¹ of Norway spruce, four years after establishment on poor clay loam soil, Fairfax County, Va.*

| Height class (feet) | Trees in height class (number) | Per cent | Height class (feet) | Trees in height class (number) | Per cent |
|---------------------|--------------------------------|----------|---------------------|--------------------------------|----------|
| 0.0-0.5 | 0 | 0 | 3.1-3.5 | 6 | 2.6 |
| 0.6-1.0 | 5 | 2.1 | 3.6-4.0 | 1 | .4 |
| 1.1-1.5 | 35 | 14.8 | 4.1-4.5 | 0 | 0 |
| 1.6-2.0 | 82 | 34.8 | 4.6-5.0 | 1 | .4 |
| 2.1-2.5 | 72 | 30.5 | | | |
| 2.6-3.0 | 34 | 14.4 | Total | 236 | 100.0 |

¹4-year-old transplants were planted and cultivation was practiced for 2 years after establishment.

Table 2 gives growth figures for a cultivated plantation of Norway spruce in southern Michigan. In this plantation the best trees reached salable size within 3 or 4 years after planting and the average trees within 4 to 6 years. Owing to somewhat slower growth rate in plantations where cultivation is not practiced, several years should be added to these periods when estimating the time required to grow a crop without cultivation.

TABLE 2.—*Height of trees in cultivated plantation of Norway spruce in southern Michigan*¹

| Item | Average of 10 largest trees | Average of 10 smallest trees | Average of 320 trees |
|----------------------------|-----------------------------------|------------------------------------|-------------------------|
| | <i>Feet</i> | <i>Feet</i> | <i>Feet</i> |
| Height planting stock..... | 1.8 | 1.4 | 1.4 |
| First year..... | 2.7 | 1.7 | 2.1 |
| Second year..... | 4.0 | 2.3 | 3.0 |
| Third year..... | 5.7 | 2.9 | 4.1 |
| Fourth year..... | 7.2 | 3.2 | 4.9 |
| Fifth year..... | 8.4 | 3.4 | 5.5 |
| Sixth year..... | 9.5 | 3.6 | 6.0 |

¹ Michigan Agricultural Experiment Station Special Bulletin 78, Christmas-Tree Plantations

HARVESTING AND MARKETING

If the production of Christmas trees as a crop is to be profitable most careful attention should be given to marketing. The best prices are obtained for freshly cut trees of good form, and these have the best chance in competition with carload shipments of natural-grown trees with which the markets are occasionally flooded. Accordingly, special emphasis should be given prompt delivery when arrangements are made for selling the crop.

Various markets are available. A man who has a local trade for farm produce can readily sell a small number of trees. More can be sold to stores and general-produce markets. Many people like to cut their own trees, so that with a little advertising a number of trees can be sold direct from the plantation. Unlike most other farm crops, Christmas trees not harvested in any one year can be held over to the next without loss. It may even be advisable to hold a few of the larger trees in the plantation until they reach a height of 8 to 15 feet to sell to churches, schools, lodges, and similar organizations. Such trees bring especially good prices. The few poorly formed trees that occur can be utilized by cutting boughs from them to be sold for special decorative purposes. Any surplus not utilized for Christmas trees can be left to grow into valuable timber.

In harvesting the trees, it should be borne in mind that appearance on the market is of importance. The butts of the trees should be cut off squarely so that subsequent trimming by the purchaser is unnecessary. Table trees, other than the living ones, may be easily and neatly cut with a pair of long-handled pruning shears. A hand-saw is the most efficient tool for harvesting the larger trees.

Trees which are to be marketed as living trees can be displayed in wooden boxes or tin cans or pots about the size of a 5 or 10 pound lard pail, depending on the size of the tree. If the box or can be

painted an attractive color, it helps to sell the product. Living trees should be dug with care in order to preserve a good root system and should be packed in wet sphagnum moss or in soil if weight in transporting the trees is not too much of a factor. A light wooden cover for the receptacle will provide stability for the tree and will reduce evaporation of moisture. Frequent watering of living trees is absolutely essential to keep them alive until such time as they are planted in the ground.

REPLACEMENTS

In order to maintain the business on a permanent basis, gaps which appear here and there throughout Christmas-tree plantations as harvesting takes place may be filled by planting new stock next to the stumps of the old trees. When most of the old stand has thus been replaced, it may be possible to resume cultivation, provided the grass and weeds have not become too rank to make this feasible.

As a substitute measure for maintaining annual production, a new plantation, established and cultivated like the original, may be started four or five years before the first has ceased yielding. This plantation in turn will continue to yield over a period of several years.

It is not practical to replace trees obtained by thinning a forest or timber plantation, as the young transplants would be seriously overtopped and shaded out by the older trees.

STATE FORESTRY AGENCIES

Woodland owners who desire more definite information regarding local forestry problems will do well to consult State forestry agencies as follows:

- Alabama: State Forester, Montgomery, Ala.
Extension Forester, Alabama Polytechnic Institute, Auburn, Ala.
- Arkansas: Extension Forester, 310 Federal Bank and Trust Building, Little Rock, Ark.
- California: State Forester, Sacramento, Calif.
Extension Forester, College of Agriculture, University of California, Berkeley, Calif.
- Colorado: Department of Forestry, Colorado Agricultural College, Fort Collins, Colo.
- Connecticut: State Forester, Hartford, Conn.
Extension Forester, Connecticut Agricultural College, Storrs, Conn.
- Delaware: State Forester, Dover, Del.
- Florida: State Forester, Tallahassee, Fla.
- Georgia: State Forester, State Capitol, Atlanta, Ga.
Extension Forester, State College of Agriculture, Athens, Ga.
- Idaho: State Forester, Moscow, Idaho.
Extension Forester, College of Agriculture, Moscow, Idaho.
- Illinois: Chief Forester, Springfield, Ill.
Extension Forester, College of Agriculture, University of Illinois, Urbana, Ill.
- Indiana: State Forester, Indianapolis, Ind.
Extension Forester, Purdue University, Lafayette, Ind.
- Iowa: State Forestry Commissioner, Des Moines, Iowa.
Extension Forester, Iowa State College of Agriculture, Ames, Iowa.
- Kansas: State Forester, Manhattan, Kans.
- Kentucky: State Forester, Frankfort, Ky.

- Louisiana: Superintendent of Forestry, New Orleans, La.
Extension Forester, Louisiana State University, Baton Rouge, La.
- Maine: Forest Commissioner, Augusta, Me.
Extension Forester, College of Agriculture, University of Maine, Orono, Me.
- Maryland: State Forester, 1411 Fidelity Building, Baltimore, Md.
Extension Forester, University of Maryland, College Park, Md.
- Massachusetts: State Forester, Statehouse, Boston, Mass.
Extension Forester, Statehouse, Boston, Mass.
- Michigan: State Forester, Lansing Mich.
Extension Forester, Michigan State College, East Lansing, Mich.
School of Forestry and Conservation, University of Michigan, Ann Arbor, Mich.
- Minnesota: Commissioner of Forestry and Fire Prevention, St. Paul Minn.
Extension Forester, Department of Agriculture, University of Minnesota, University Farm, St. Paul, Minn.
- Mississippi: State Forester, Jackson, Miss.
Extension Forester, Jackson, Miss.
- Missouri: State Forester, Columbia, Mo.
- Montana: State Forester, Missoula, Mont.
School of Forestry, University of Montana, Missoula, Mont.
- Nebraska: Extension Forester, College of Agriculture, Lincoln, Nebr.
- New Hampshire: State Forester, Concord, N. H.
Extension Forester, University of New Hampshire, Durham, N. H.
- New Jersey: State Forester, State Office Building, Trenton, N. J.
Extension Forester, College of Agriculture, New Brunswick, N. J.
- New York: Superintendent Lands and Forests, Albany, N. Y.
Extension Forester, College of Agriculture, Cornell University, Ithaca, N. Y.
New York State College of Forestry, Syracuse, N. Y.
- North Carolina: State Forester, Raleigh, N. C.
Extension Forester, State College Station, Raleigh, N. C.
- North Dakota: State Forester, Bottineau, N. Dak.
Extension Forester, Bottineau, N. Dak.
- Ohio: State Forester, Wooster, Ohio.
Extension Forester, Agricultural Experiment Station, Wooster, Ohio.
- Oklahoma: State Forester, Oklahoma City, Okla.
- Oregon: State Forester, Salem, Oreg.
School of Forestry, Oregon State College, Corvallis, Oreg.
- Pennsylvania: State Forester, Harrisburg, Pa.
Extension Forester, Pennsylvania State College, State College, Pa.
- Rhode Island: Chief, Bureau of Forestry, Statehouse, Providence, R. I.
- South Carolina: State Forester, State Office Building, Columbia, S. C.
- South Dakota: State Forest Supervisor, Custer, S. Dak.
- Tennessee: State Forester, Nashville, Tenn.
Extension Forester, College of Agriculture, University of Tennessee, Knoxville, Tenn.
- Texas: Director, Texas Forest Service, College Station, Tex.
Farm Forester, College of Agriculture, College Station, Tex.
- Utah: Extension Forester, Agricultural College of Utah, Logan, Utah.
- Vermont: Commissioner of Forestry, Montpelier, Vt.
Extension Forester, University of Vermont, Burlington, Vt.
- Virginia: State Forester, University, Va.
Extension Forester, Virginia Polytechnic Institute, Blacksburg, Va.
- Washington: Supervisor, Division of Forestry, Olympia, Wash.
Department of Forestry, State College of Washington, Pullman, Wash.
- West Virginia: Chief Forester, Charleston, W. Va.
Extension Forester, West Virginia University, Morgantown, W. Va.
- Wisconsin: Superintendent of State Forests and Parks, Madison, Wis.
Extension Forester, College of Agriculture, University of Wisconsin, Madison, Wis.
- Wyoming: Extension Forester, College of Agriculture, University of Wyoming, Laramie, Wyo.

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