Growing Christmas Trees in Indiana

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GROWING CHRISTMAS TREES IN INDIANA
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Production of Christmas trees on formerly idle land is a relatively new but rapidly growing industry in Indiana. It is one way to put worn out, eroded or inaccessible areas onto the income-producing side of the ledger. It is a form of tree planting that can also be combined with forest planting for timber production or other purposes.

The home-grown Christmas tree has several advantages, a few of which are:

1. It can be cut just a few days or weeks before Christmas and will retain its freshness and fragrance well through the Holiday season.

2. It can successfully compete in cost with shipped-in trees since the long haul and high transportation expense are eliminated.

3. It is a local product, bringing in local income and at the same time putting to good use land that would otherwise be wasted.

4. A freshly cut, home-grown Christmas tree, if properly handled and placed in water, will remain fire-resistant in the home throughout the Season.

Species to Use

Most any coniferous, or evergreen tree has been or can be used for a Christmas tree. However, the species listed in the attached table are best suited, with the exceptions as noted, for growing under Indiana conditions. In general, the pines grow best and seem to be in greatest demand, especially Scotch Pine and White Pine.

Remember that free technical service in the selection of species to fit your particular site conditions can be obtained from your nearest service or Extension forester. His name can be obtained from your county Extension agent.

Where to Get Planting Stock

The state tree nurseries grow and sell, at low cost, planting stock suitable for Christmas trees. Order blanks are usually available by September, and orders are taken up to the end of February each year on a "first come, first served" basis, for delivery in early spring. Order blanks are obtainable from county agents, service foresters, district foresters and Extension
foresters, or by writing to the Division of Forestry, Room 613, State Office Building, Indianapolis, IN 46204. These trees are sold only with the understanding that they will not be planted inside the corporate limits of a town or city, will not be used for shade or ornamental trees, and will be protected after planting from livestock and fire. It should also be noted that once planted, these trees cannot be re-sold as rooted stock.

A number of commercial firms also produce stock suitable for planting for Christmas trees. A list of these is available upon request.

**Planting**

Care and Handling of Stock: In general, it is most desirable to go directly to the nursery to obtain planting stock since some damage often results in shipping. However, if your trees are shipped, remember that they should not remain in the bundles more than 24 hours after you receive them. If planting cannot be done within this period, the trees should be removed from the bundles and placed in a "heeling-in" bed. This should be done in the shade and the trees kept moist in a trench until planting time. Care should be taken in handling to avoid breaking the terminal buds, and the trench should be as near as possible to the planting area. For further details on planting, obtain the Hoosier Tree Planter's Manual from the nearest forester or the Purdue AGAD Mailing Room.

Spacing: The spacing of trees in Christmas tree plantations varies widely although the most common is 6 x 6 feet. This is also the spacing used for most other types of tree plantations. In general, 5 x 5 feet is considered the minimum spacing. The following table shows the number of trees required per acre at various spacings.

<table>
<thead>
<tr>
<th>Spacing (feet)</th>
<th>No. of trees per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>2722</td>
</tr>
<tr>
<td>5 x 5</td>
<td>1742</td>
</tr>
<tr>
<td>6 x 6</td>
<td>1210</td>
</tr>
<tr>
<td>7 x 7</td>
<td>888</td>
</tr>
<tr>
<td>8 x 8</td>
<td>680</td>
</tr>
<tr>
<td>9 x 9</td>
<td>538</td>
</tr>
<tr>
<td>10 x 10</td>
<td>435</td>
</tr>
</tbody>
</table>

Ground Preparation: The better the ground preparation in advance of tree planting, the better will be growth and survival.

*Livestock will browse all species of evergreens, causing severe damage. Complete protection from all types of livestock is necessary.*

*Surround the plantation with plowed strip for fire lane, where possible. For larger plantations, divide into blocks—plow fire lanes between blocks.*
Eliminate double leaders by cutting out the weaker of the two.

Correct poor form by careful pruning.

Terminal injured by insects or other causes should be cut out to let one of the laterals develop as a leader.

Following are several recommended methods:

1. Plowing and discing is the best method where practical and assures good survival and growth.

2. Contour furrows are best adapted to rougher areas which are liable to erode and areas with a heavy sod or other heavy cover. Furrows should be spaced 6 feet apart if a 6 x 6 foot spacing is desired, etc.

3. Scalping is the removal of at least an 18-inch square of sod at each spot where a tree is to be planted. Best suited for extremely rough areas and hand planting.

If planting is to be done with a tree planting machine, very little ground preparation is necessary. However, the use of chemicals before planting to remove competing weeds or brush is recommended.

Time to Plant: The tree planting season in Indiana is usually from about the middle of March until the end of April. Fall planting is not recommended.

Plantation Management

Protection: Complete exclusion of all types of livestock, including chickens, is the first essential in raising Christmas trees. Through browsing and trampling, livestock will destroy the value of a Christmas tree plantation.

Shear terminal to maintain a distance of 10” to 12” between whorls. Shear new growth on side branches to produce compact form. Shearing should be done about mid-June to mid-July. Be sure to cut nothing but new growth.
<table>
<thead>
<tr>
<th>Name</th>
<th>Site desired</th>
<th>Characteristics</th>
<th>No. of years to produce salable tree</th>
<th>Where available (nurseries)</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red or Norway Pine (Pinus resinosa)</td>
<td>Will grow on most areas, Light sandy to heavy clay soils.</td>
<td>Needles long, slender, retain blue-green color well. Relatively free of insects and diseases.</td>
<td>6-8</td>
<td>State and Commercial</td>
<td>Valuable timber and windbreak tree.</td>
</tr>
<tr>
<td>Jack or Banks Pine (Pinus banksiana)</td>
<td>Will grow on poorest sites, except very poorly-drained sites.</td>
<td>Needles short, twisted, tendency to brown.</td>
<td>4-6</td>
<td>State and Commercial</td>
<td>Good for very sandy or badly-eroded areas. Form not too good. Has cones at early age.</td>
</tr>
<tr>
<td>Scotch Pine (Pinus sylvestris)</td>
<td>Will grow on most areas.</td>
<td>Needles medium long, stiff - holds ornaments well.</td>
<td>5-7</td>
<td>State (limited and Commercial)</td>
<td>An introduced European species. Best trees in good demand.</td>
</tr>
<tr>
<td>White Pine (Pinus strobus)</td>
<td>Needs moist, but well-drained sites.</td>
<td>Needles medium long, deep blue-green color.</td>
<td>6-8</td>
<td>State and Commercial</td>
<td>Form usually good. Rapid growth on better sites necessitates shearing.</td>
</tr>
<tr>
<td>Austrian Pine (Pinus nigra)</td>
<td>Will grow on most areas.</td>
<td>Needles stiff and sharp, quite dark.</td>
<td>6-8</td>
<td>State (limited) and Commercial</td>
<td>Slow to start. Poor form.</td>
</tr>
<tr>
<td>Norway Spruce (Picea excelsa)</td>
<td>Most exacting in site requirements. Requires good soil.</td>
<td>Short needles, stiff, fragrant.</td>
<td>7-12</td>
<td>Commercial</td>
<td>Limited to better sites in northern Indiana. Has tendency to shed needles unless freshly cut</td>
</tr>
<tr>
<td>Virginia Pine (Pinus Virginiana)</td>
<td>Grows on all but extremely poorly-drained sites. Will grow on sandy soils.</td>
<td>Needles medium long, twisted.</td>
<td>4-6</td>
<td>State and Commercial</td>
<td>Has tendency to develop crooked stems. Best form in mixed stands.</td>
</tr>
</tbody>
</table>
Likewise, protection from fire is obviously necessary. This can be accomplished by the use of fire lanes, which are plowed or disc'd strips of land kept bare of vegetation. The width varies with the type of adjacent areas. These strips should be on the contour and not up and down hill so as to avoid soil erosion. These fire lanes will also prove useful as truck trails. Larger plantations should be broken up into smaller blocks by such fire lanes. Cultivating between the rows during the years while the trees are small is another good fire safety practice. Remember, however, to keep fire fighting tools handy, especially in the spring and fall.

There are some insects and diseases that might appear in your plantation. At the first evidence of such trouble, contact your county Extension agent or nearest forester, to determine the cause and newest method of control.

Shearing: Shearing is a practice designed to develop a more compact, symmetrical tree and to increase the number of salable trees in the Christmas tree plantation. There are many degrees of severity of shearing, and it requires much hand work and judgment. Following are some of the general rules based upon the experience of some of the largest Christmas tree growers in Indiana and other states.

The shearing of the pines must be done mid-June to mid-July, before the needles and buds are fully developed. During the first 3 years, light pruning is all that is required. Removal of the extra leader where a double leader occurs, trimming back an extra long side limb, or the cutting back of an extremely long leader are all that is necessary. After this 3-year establishment period, some shearing should be done each year to keep the trees growing in the form desired. The leader should generally be cut below a bud cluster when it has reached a length of one foot. This is especially important during seasons of rapid growth to avoid a long space between whorls the next year. A pair of 8- or 10-inch hand pruning shears is the most commonly used tool for this work. Shearing knives, especially designed for the purpose, are also becoming more common.

The spruces require different treatment than the pines. Shearing should be done in late summer, fall or winter. The terminal, or leader, should be cut back to 1 foot, but the cut should be made just above a bud to insure that a new whorl of branches will develop. Lateral branches are usually trimmed back to 6 to 8 inches in length. Be sure, also, to cut at the point just above the whorl so that a stub will not remain.

Competition of Hardwoods and Brush: To produce well-formed Christmas trees, the removal of competing hardwoods and brush is sometimes necessary. This can be accomplished by cutting or with chemicals. For chemical control, use 2,4,5-T in oil, as a basal spray during the winter months. Foliage sprays in late summer, using a mixture of 2,4-D and 2,4,5-T, can be used to control low-growing brush where necessary. Every precaution should be taken to prevent the spray from getting onto the evergreens themselves.

Marketing

Nearby towns and neighbors provide the best markets if you are a small producer. Many small growers sell their standing trees to individuals at retail prices, and the buyer does his own cutting. Larger growers generally sell their trees under contract at wholesale prices and with a down payment in advance. Before you enter into a large Christmas tree venture, you should investigate prospective markets and the needs and preferences of jobbers and retailers.

It is also recommended that Christmas tree growers, and prospective growers, investigate the Indiana Christmas Tree
Growers' Association as a source of further information and marketing assistance. Further details can be obtained by writing to E. J. Lott, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN 47907.

The following publications are available from the Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN 47907:

- **F-20** A Selected List of Publications on the Growing of Christmas Trees
- **F-61** Hoosier Tree Planter's Manual
- **F-32** How to Combat Insect Pests of Pine Trees

Further information or additional copies of this publication can be obtained through your county Extension agent or nearest forester, or the Department of Forestry and Natural Resources at Purdue University, West Lafayette, Indiana 47907.