

Christmas Trees Pay Off, If You Can Wait 5 Years

By Maxwell L. McCormack, Jr.

Christmas tree production can provide supplementary income from land which otherwise might be idle. A relatively high financial return can be achieved where the emphasis is on quality trees in a quantity which can be handled by the producer.

Careful management and a commitment of time throughout the production period is necessary. During initiation of a production program, a delay of 5 to 10 years is likely before there is a return on investment.

Though Christmas tree production can provide work during off-season periods when a landowner has time available, there are also periods during growth of the trees when it is essential that certain cultural practices be carried out. Precision of timing can be critical in doing this work, and the trees must be observed on a regular basis. A grower should gradually develop production to a level capable of supporting a consistent marketing program.

Besides monetary gain, Christmas tree production provides other benefits. It is an excellent way to maintain, or improve, abandoned farm fields and to inhibit invasion by undesirable brush species.

The relatively low growth is a valuable way of maintaining open areas as part of a desirable land use pattern. Open areas contribute to scenic beauty and provide vantage points for scenic vistas. Such patterns contribute to recreational uses and also provide desirable habitat for many wildlife species.

In some cases Christmas tree production can be combined with growing other products, but it is usually advisable to designate areas for tree production only.

Generally, an acre of suitable land can produce 700 to 900

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marketable trees over an 8 to 10 year period. There is a tendency to try to produce too many trees per unit of land area. A spacing of 5 feet by 5 feet (1.5m x 1.5m) is the minimum, with wider space between the rows recommended.

Though production rates will vary according to the type of tree grown and the quality of the land, over 1,000 trees per acre within a growing period should be considered excessive and it is unlikely that a major harvest would be possible in less than 6 years.

Most efficient production and best returns on investments are achieved through developing uniform plantations of trees. Always emphasize quality. Rarely have there been sufficient high quality trees to satisfy market demands throughout the history of the Christmas tree industry.

Suitable Land

A readily accessible site is essential. Physical characteristics of the site are easiest to evaluate. More detailed analysis of soils and other environmental factors should then follow.

A gentle slope, free of frost pockets, is best. Drainage of air and excessive moisture is important for good growing conditions. Direct exposure to prevailing winds, especially during winter, must be avoided.

North-facing slopes are definitely preferred over those exposed to the south. Moisture conditions are usually better on northerly slopes. Undesirable droughty conditions are more prevalent on south slopes where trees tend to initiate growth earlier in spring, making them more susceptible to frost damage. Though frost injury rarely kills established trees, it deforms the shapes of Christmas trees.

Evaluate soil conditions by submitting samples for testing to an appropriate laboratory in the area. Then use the relative levels of important nutrients as guides for fertilizer applications. Much can be learned from a history of the land and by observing plant cover presently growing on the site.

Though you must remove competing vegetation in establishing a Christmas tree stand, its healthy condition usually indicates that trees will grow well.

Avoid areas with soil conditions which do not support good natural plant growth. Identifying the plants present on a prospective site will indicate characteristics of drainage, nutrient levels, and other aspects of soil quality.

There should be sufficient soil depth to allow good development of tree roots. Moisture relationships are the most important to consider in evaluating an area. Excessively

drained, dry sites are undesirable and those with too much moisture should be avoided as well. Very light-textured, sandy soils with low levels of organic matter, as well as heavy clay soils, do not support good tree growth.

Also consider general weather conditions for the area. Temperature extremes, especially late spring and early fall frosts, are undesirable. Precipitation should occur at times which support good tree growth. Moisture input well-distributed through the growing season is important.

Good winter snow cover serves to protect trees and reduce winter movement of large animals. However, winter conditions must also be considered with respect to harvesting operations because of the product's seasonal nature.

Other considerations center around accessibility and security. Christmas tree production requires ready accessibility for efficient administration of cultural practices and harvesting. Yet the final product is susceptible to theft. Have adequate security and supervision to minimize such losses.

Trees to Grow

A wide variety of trees is available. Restrict your choice to species readily marketable in your region. The potential species, determined from market evaluation, should then be matched against the characteristics of each site available for production. Do this through a study of site requirements of the species being considered, and observe trees already growing in the area or nearby. If necessary, get advice to assure suitability.

Once you settle on realistic candidates, evaluate them with regard to production problems. Problems include common insect and disease pests.

Additional considerations are special requirements for producing quality trees of a given species, and any cultural practices which involve scheduling during a restricted season. Practices such as shearing pines only when the new growth is soft can often present problems if your personal schedule does not allow the time needed.

Species selections can usually be placed in three groups. One group includes cedars and cypresses, which have scaly and awl-shaped leaves and are produced in areas in the South. The remaining two groups make up most of the Christmas tree species marketed and can be classified according to needle length.

Long-needled trees are the pines and include such common Christmas tree species as Scotch pine and white pine. Pines

only produce branches in annual whorls, which result in sections of bare stem along each length of annual growth. Consequently, they require a more rigid shearing schedule so as to develop desirable shape and foliage density.

Short-needed species include firs, spruces, and Douglas-fir. Several are species available across our northern and central regions.

The short-needed species not only have branches in annual whorls but produce shorter branches along the length of each annual stem growth between the whorls. Because of this branching habit, shearing requirements are not as demanding as with high quality pine trees.

Genetics is important in choosing the kinds of trees to grow. The most popular species such as Scotch pine, Douglas-fir, and balsam fir exhibit a wide range of genetic variation.

For efficient production of high quality trees it is essential to have a suitable genetic strain, variety, or recognized seed source of the species to be grown. Use a genetic source specifically suited for the production site, when available.

Establishing the Stand

In some cases, improving the trees existing in natural stands on the property can provide early yields of marketable trees. Resulting income can support the establishment of plantations specifically for Christmas trees. It also allows for development of markets while the plantation trees are growing.

Intensive cultural practices in natural stands can help sustain production of quality trees over long periods of time. Provide natural seed supplies to maintain regeneration of desired species. Sometimes you need to interplant to keep the area fully stocked.

Some species are suited to a practice known as stump culturing. This involves keeping a stump alive by retaining some live branches after a tree is harvested. A bud, or turned-up branch, is then cultured into a second tree on the same stump. This is usually a slower, inefficient procedure; use it only where there is no better choice.

Successful stand establishment involves achieving the highest possible percentage of trees living and developing well in their first growing seasons. This means assuring good establishment of proper stock in quantities which you can handle within the time available.

Develop an annual planting schedule aimed at sustaining an appropriate, consistent level of production.

Prepare the site before doing any planting. Though areas

should not be exposed to erosion and other forms of deterioration, suppression or elimination of vegetation which will compete with the trees is most important.

You can mow or cultivate, but some form of herbicide treatment is the most efficient and effective way. Preparation treatments will depend on the nature of the site as well as the vegetation present. Woody brush species require different treatment than vegetative cover composed of grasses and herbaceous weeds.

Safe, effective herbicides which favor Christmas tree species are usually applied as sprays. In some cases a cover crop such as rye will help hold the site in manageable condition.

Evaluate nutritional levels in the soil prior to planting as a guide to determine the need for nutrient supplements. Apply fertilizers to correct any nutrient deficiencies before planting trees.

Once the site is prepared, plan the desired planting carefully with an adequate access road system before any trees are put in. Actually mark out the planting areas and the roads beforehand. The road system is necessary for cultural operations and harvesting.

Planting Stock

Obtaining suitable planting stock can be a problem because of short supplies of good quality material of the most desirable species. Low-priced stock usually is not the bargain it appears to be. Good stock helps assure survival and early growth; it costs less in the long run. Evaluate stock quality carefully and inspect it before purchase when you can.

Seedlings are stock which has been grown only in the location where the seed originally germinated. Transplant stock is material which has been moved from the seedbed to an area of wider spacing to provide for a secondary period of development. Seedling stock of the pines is usually satisfactory for outplanting. Short-needed species perform much better as transplant stock.

Root systems and tops should be balanced so there is adequate root mass to support above-ground portions of the trees. A compact root system with many fine rootlets, rather than coarse heavy roots, is desirable. The tops should have good caliper (stem diameter) and bud development, since the buds will form the basis for the first growth in the field.

Planting stock should be packaged, shipped, and handled in a way to assure maintenance of good fresh condition. Long shipping distances and exposure must be avoided. Obtain only

quantities of stock which you can handle readily in the planting operation.

You can get suitable planting stock from tree nurseries. Where only seedlings of short-needed species are available, it is advisable to prepare your own transplant beds. In this way you can minimize exposure of the trees and lift them at the exact time they are needed. Two growing seasons in a properly managed transplant bed can result in excellent root and top development.

Natural Seedlings

Another possibility is to lift natural seedlings of desired species from nearby woodland and transplant them in beds adjacent to future planting sites. Direct outplanting in the field of such seedlings is not recommended.

Use of natural seedlings allows you to develop planting stock, which is available when needed, at relatively low costs. In the absence of recognized desirable genetic sources, this approach assures having trees suitable for the local area.

Christmas tree growers can develop a home planting stock nursery. Seed collection programs, using superior trees in the area, are also possible. But management of a home nursery, though convenient and productive, is complicated and requires special knowledge and skill.

Stock should be outplanted while dormant and when a period of root growth can occur before the first winter. There are many acceptable methods of planting. Numerous suitable hand tools are available. Spade-type tools are common and post-hole augers effective. One person can plant 600 to 800 trees in a reasonable workday.

Where the terrain allows, and equipment is available, you can use tractor-drawn planting machines. In some mechanized procedures, herbicide and fertilizer applications can be combined with planting.

The planting method used should insure good distribution of the roots since they tend to remain in their initial position during subsequent growth periods.

Depth of planting should approximate the position occupied by the trees in the nursery. Pack soil firmly around the roots to eliminate all air spaces. Avoid exposure throughout the planting of young trees.

Tending the Crop

Frequent inspections should be made during the early years of development. Maintain a continuous program of weed con-

trol and necessary fertilizer applications. Where healthy trees develop double tops, do early corrective trimming.

Be ever watchful for early stages of development of insect and disease pests. Examine foliage, twigs, and buds for symptoms. When abnormal conditions exist, collect specimens for examination by a qualified forester. Recommended pest control treatments change frequently; obtain the most up-to-date recommendations before carrying out treatments.

As the trees begin to develop their basic Christmas tree frame, you can improve shape and density by some type of shearing treatment. Shearing practices depend on personal experience and preferences. Tools such as hedge shears and special knives are commonly used. Best results are attained when the trees are a size that is easily reached and they are exhibiting good health and vigor.

Combinations of cultural practices produce best results. For example, best responses to shearing will occur on trees which are well-nourished, free of competing vegetation, and with ample room to develop. Old practices, such as scarring the stems, produce negative responses and suppress growth, and are undesirable.

When trees of inferior quality exist in the early stages of plantation development, remove them to avoid efforts wasted on individuals that will never be marketable. Do not hesitate to cull out poor quality, defective specimens.

Produce trees in the shortest possible time to get maximum return on your investment and to minimize risk and exposure to harmful agents.

Preparing to Harvest

Locate buyers before cutting any trees. Assistance often can be obtained from other tree growers in the area or from a marketing coordinator in the local Christmas tree growers association. To sell trees most effectively, have an exact inventory of trees available for sale.

A pre-harvest marketing inventory should include species, size classes, an indication of relative quality, and exact location of the trees. Sale is usually made on the basis of trees cut, packaged, and collected at a truck-loading location.

It is best for you to cut your own marked trees and to package them as soon as possible after cutting. Packaged trees are easier to handle, suffer less breakage, and remain in better condition.

Time of harvesting depends on weather, available labor, processing methods, number of trees to be cut, storage condi-

tions, and marketing requirements. Keep trees cool, with some air circulation, protected from direct wind and sunlight.

Foliage of late-cut trees and those stored completely under cover often has lower moisture content than the foliage of trees cut earlier and stored in cool outside locations. Very low temperatures at harvesting time result in brittle branches and excessive breakage.

Assemble harvested trees according to size and grade at a location readily accessible to the vehicle they will be loaded on. Growers should be familiar with the type of transportation which will be used and plan for easy loading.

A marketing alternative is choose-and-cut sales, direct sale of single trees to individual customers who come to the farm. This can often be combined with a recreational experience for the buyer's family and will yield a much higher rate of return.

Such a system involves marketing a smaller quantity of trees from locations within a convenient travel distance from population centers. It also gives an opportunity to sell wreaths and other products such as maple syrup and honey.

Sizes of trees sold depend on market demand and can range from small table-top trees to household specimens as tall as 12 feet (3.6m) or more. In regions where winter conditions are not severe, there are some opportunities to sell trees with roots balled in burlap for future outplanting by consumers. Digging and root preparation require extra work, however.

As trees are harvested, strive to maintain uniformity in the tree production areas. Uniformity in size classes, species, and growth rates provides for more efficient production and eliminates injuring small trees during the harvest of larger ones.

Mark trees sold by any system before harvest. Keep records of all production practices, harvesting operations, and marketing. These records serve to guide future operations and for accounting purposes.

Keep in mind the personal preferences of Christmas tree buyers throughout the production process. The objective is to sustain a consistent supply of quality trees which satisfies consumer desires, while the land benefits from proper cultural practices.

Sources of additional information include: Your State Extension Forester. The Service Forester, State Forestry Agency, at your State Capital. State or Regional Christmas Tree Growers Association, which can be contacted through the National Christmas Tree Association, 611 E. Wells Street, Milwaukee, Wis. 53202.