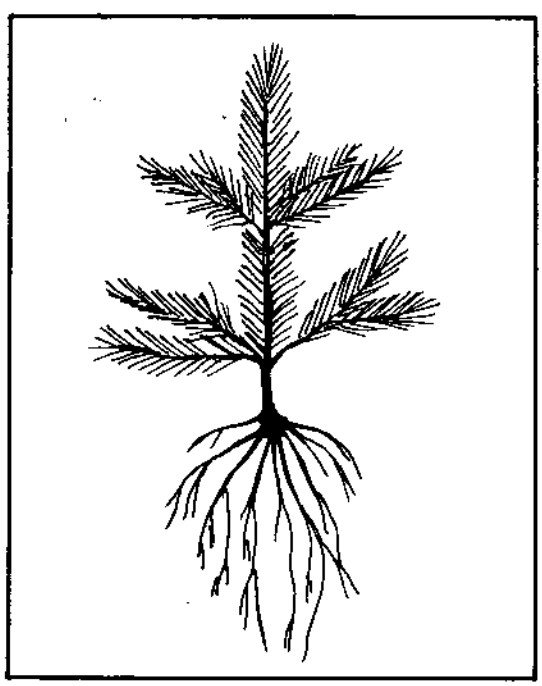
Christmas Trees : Planting and Shearing for a Profitable Harvest

Roger Webb*

Florida Cooperative Extension Service/Institute of Food and Agricultural Sciences/University of Florida/John T. Woeste, Dean

Producing locally grown, high-quality Christmas trees in Florida can be a profitable venture if proper attention and consistent care are maintained throughout the three to four years required to grow a salable product.

Of all the activities required for Christmas tree culture, such as site preparation, planting of superior seedlings, pesticide application, mowing, and shearing, the two most critical aspects are planting and shearing. Unless seedlings of excellent quality are planted, the trees that are expected to develop will not grow at a maximum rate or exhibit an optimum form for shearing. Also, no amount of shearing, which is necessary to obtain the all-important compact, conical foliar shape, will create a "silk purse" from a "sow's ear." Starting with the best quality seedlings and shaping these trees frequently (two to three times) during each growing season will maximize the likelihood of a top-quality product.



Selecting the Proper Species

Only high quality seedlings should be purchased from experienced nurseries. The provenance, or seed source, should be local whenever possible to obtain seedlings adapted to the southern United States, or preferably the Florida environment.

Species successfully grown for Christmas tree production in Florida are eastern red cedar *(Juniperus virginiana)*, Choctawhatchee sand pine *(Pinus clausa* var. *immuginata)* and Virginia pine *(P. virginiana)*. Spruce pine *(Pinus glabra)* is also a species of interest but is difficult to shape into a high-value tree due to a greater inherent variability in seed quality and seedling form. No other tree species are recommended currently for Christmas tree production in Florida.

Purchase only seedlings that carry a certificate of state inspection for the absence of pests.

Seedlings grown in the nursery beds for one year prior to sale are designated as "1-0." Seedlings described as "1-1" were grown in the nursery beds for one year and then transplanted in separate beds for an additional year. Almost all seedlings of species sold for Christmas tree production in Florida are 1-0 stock.

Buying bare-root seedlings from a commercial nursery means receiving a bulk lot of seedlings usually in bundles of 500 or 1,000. The root systems should be packed in moisture-retaining materials such as peat or hydro-mulch and each lot wrapped in water-repellent kraft paper with small, wooden poles inside for easy handling of the bundles.

Containerized seedlings may also be purchased from certain nurseries, and although they are usually more expensive than bare-root stock, they have root systems already growing in soil media.

Within each lot of seedlings, whether bare-root or containerized, there exists a range of seedling sizes. Discard the very small seedlings since these will never produce high-quality seedlings in a reasonable

*Roger Webb is an Assistant Professor and Extension Forestry Pathologist, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

period of time and so are comparatively unprofitable. Conversely, discard the very large seedlings whose tops are much larger than the roots and may not be good trees, since the root systems may not be expansive enough to support adequate foliar development.

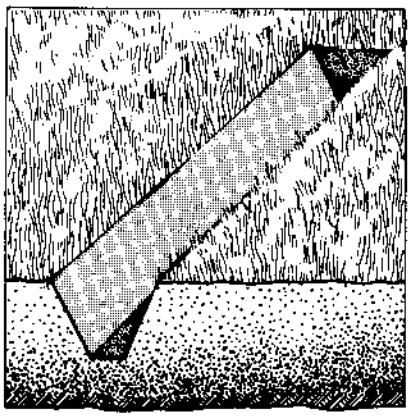
Ideally, seedlings to be planted should have tops ranging from six to ten inches in height with an equal root system size, and have a ground-level stem diameter approximately ¼ inch in size.

Care of Seedlings

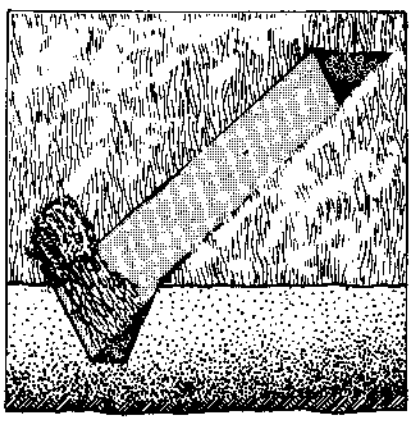
Seedling bundles must not dry out either during shipment or if left open and exposed during planting, as this reduces the likelihood of post-planting survival. Water seedlings as soon as possible after receiving them, and if planting is not accomplished within several days, store the wet bundles in a cold (not freezing), dark place but only for as short a time period as possible. Once in the field, seedlings must be kept moist either by frequent watering or preparing a shallow trench and "heeling in" or covering the root systems with soil for short-term placement prior to planting.

Planting Hints

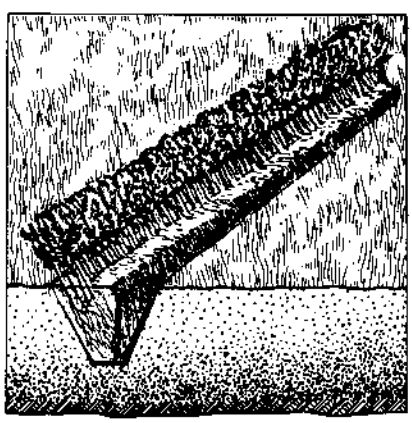
For the small grower, either a planting bar ("dibble") or spade is ideal for planting seedlings. Once the spacing is determined, generally 6 × 6 feet, or 1,210 trees per acre, use the dibble or spade to open a deep hole in the soil. Place the root system in the hole to check the "fit" of the roots. Some excessively long roots may have to be trimmed to fit into the planting hole without curling or "J-rooting." A jumbled root system may grow into and around itself rather than out into the surrounding soil, causing a "strangled" seedling that grows slowly with poor form.



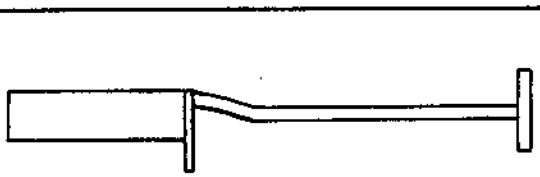
Trench is dug deep enough to accommodate roots.



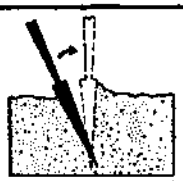
Layer of trees is laid against slanting wall.



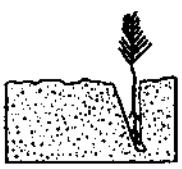
Soil is piled and packed against tree roots, leaving trench ready for another layer of trees to be heeled-in the same way.



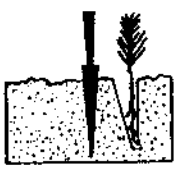
Dibble or Planting Bar



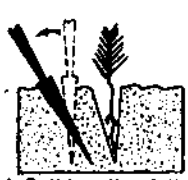
1. Insert dibble at angle shown and push forward to upright position.



2. Remove dibble and place seedling at *correct* depth.

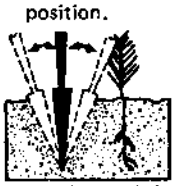


3. Insert dibble 2 inches toward planter from seedling.

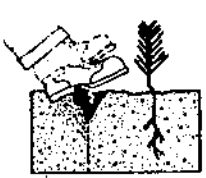


4. Pull handle of dibble toward planter firming soil at bottom of roots.

5. Push handle of dibble forward from planter firming soil at top of roots.



6. Puch forward then pull backward filling hole.



7. Fill in last hole by stamping with heel.

8. Firm soil around seedling with feet.

Plant seedlings at the depth at which they grew in the container or nursery bed, which is determined by examining the lower stem for the interface between the top portion and the beginning of the root system. Once the correct planting position is determined, place the dibble several inches behind the planting hole, insert it fully into the soil in a vertical position, and push forward to close the first hole to compact the soil around the roots.

Watering may be necessary to settle the soil and remove air pockets, which could reduce seedling survival. Roots of containerized seedlings may have to be loosened from each other by hand within the container medium to separate roots slightly for better growth into the surrounding soil.

Planting seedlings at regular intervals at intersections of rows and columns facilitates mechanical means of mowing or pesticide applications. Also, since "neatness counts" for cut-and-choose operations, an orderly, well-kept Christmas tree plantation impresses potential customers. In large plantations where access of equipment is critical, consider leaving every tenth row vacant as a roadway to ease transport.

Site Preparation

A smooth, level soil surface is best for Christmas tree plantings, so site preparation is necessary to clear the land. Woody plants and their root systems should be removed and the cover vegetation burned and/or disked. Disking at least several months prior to planting allows settling of the soil before seedlings are planted in late December or January in Florida.

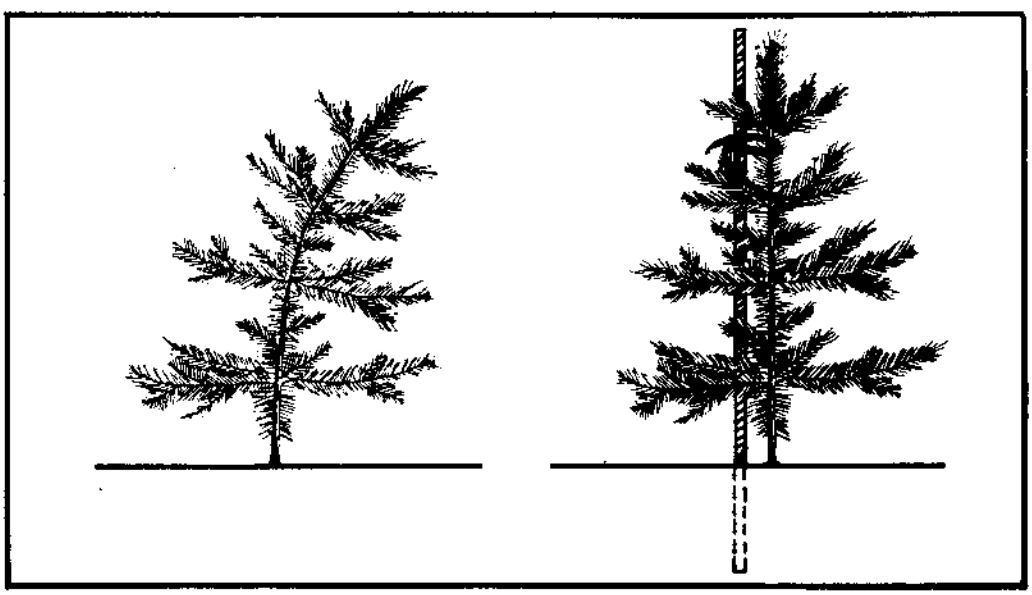
Herbicides should be considered if the soil structure is loose and the ground covered with annual weeds. Use extreme caution when using any pesticide and follow label directions for the proper concentrations to apply and the use of safety equipment.

While fertilizers are not usually necessary for Christmas tree production, particularly on old-field sites, new timed-release fertilizer pellets with residual activity of 1½ to 3 years may be advantageous for growing trees in our sandy Florida soils. However, further testing is needed before specific recommendations can be made. This may mean reduced fertilizer losses due to leaching and a prolonged presence of fertilizer constantly in the root zone, where it needs to remain for maximum effectiveness. A soil test performed by the county extension office should be done routinely to identify nutrient problems and recommend corrective fertilization if required.

Shearing for Maximum Quality

Every seedling grown for use as a Christmas tree needs to be pruned or sheared to produce a conical form with compact foliage. This is especially true of pine seedlings. Yearly growth of terminal and lateral branches must be symmetrical to assure a balanced growth form, and this is done only by removing succulent branch tips to maintain the desired conical form.

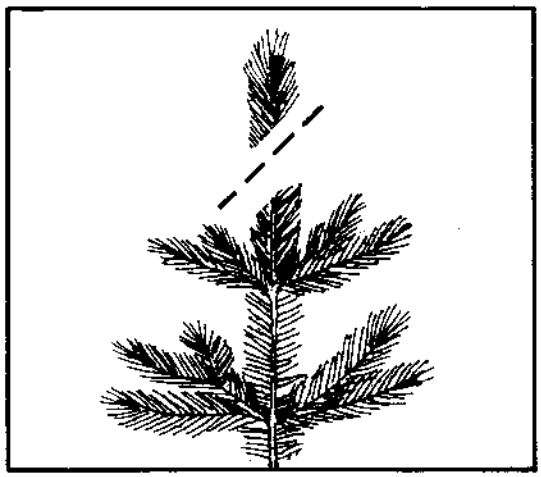
Older branch tissue has an exterior brownish bark, while young tissue is light green in color without bark. Only the fresh, young tissue should be sheared, if possible, since cutting fresh tissue allows for healing and the formation of multiple buds that further increase dense foliage production. Shearing older branch tissue or "old wood" does not produce a new whorl of buds, and the branch, while brought back into the overall conical form, does not produce new, compact foliage and may even die.



Shearing in Florida should begin at the end of the first growing season after planting. At this time, more intensive shearing should be directed at reducing the height of the terminal leader while allowing the lower laterals to grow proportionately more.

A shorter tree is preferred even through the second year of growth to ensure more compact foliage. Height can be "added" during the third year by favoring growth of the terminal more than the lateral branches.

During the second and subsequent years, shearing should occur first in the spring, after bud break but before the new shoots are 6 to 8 inches long. A mid- to late-summer shearing is necessary, and early fall shearing may be necessary to force as much energy as possible for height growth back into the conical form for growth of the foliage.



Prune the terminal leader to about 50 percent of original height and at a 45-degree angle to balance the form as well as favor formation of only one bud to maintain growth of a single terminal. Symptoms of pest damage such as dead branch tips from pine tip moths or flagging branches due to pitch canker fungus, especially among Virginia pines, should be mechanically removed or burned.

Various shearing tools are available for the small grower such as hand pruners, hedge clippers, pruning knives, and an array of gasoline- or battery-powered, backpack-mounted shearing rigs. Since user safety is the prime consideration, hand pruners or hedge clippers provide maximum safety to the user and other persons in the immediate area of shearing operations. Severe wounds can be quickly inflicted when shearing with knives or mechanical devices, so gloves and shinguards are recommended. Kits of bandages and simple wound dressings also should be kept close at hand to treat the inevitable accidents that are unfortunate companions to shearing operations.

Following these simple rules for planting and shearing will increase the likelihood that top-quality trees will be produced. As Florida Christmas tree growers improve their skills, the quality of trees will improve, and in a competitive marketplace, the trees with optimal form and thickness should sell first.

This public document was produced at a cost of $475.46, or 29.7 cents per copy, to inform the clientele of the production methodology for christmas trees in Florida. 8-1.6-85

COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES, K. R. Tefertiller, director, in cooperation with the United States Department of Agriculture, publishes this information to further the purpose of the May 8 and June 30, 1914 Acts of Congress; and is authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex or national origin. Single copies of Extension publications (excluding 4-H and Youth publications) are available free to Florida residents from County Extension Offices. Information on bulk rates or copies for out-of-state purchasers is available from C. M. Hinton, Publications Distribution Center, IFAS Building 664, University of Florida, Gainesville, Florida 32611. Before publicizing this publication, editors should contact this address to determine availability.