

## RURAL ENTERPRISE SERIES

RES-08

### Christmas Tree Enterprise

The Maryland Christmas tree industry consists of more than 125 growers who are managing 4.2 million planted trees; 368,000 of which are harvested yearly. Most Christmas tree growers work part-time at their enterprise. Christmas trees can be grown economically on lots as small as an acre.

Christmas tree operations differ largely on how they market their trees. Wholesale growers sell directly to retailers and have little direct contact with the public. Retail growers produce their own trees and then market them at retail outlets in suburban or urban markets. Choose-and-cut growers produce their trees on their own property and invite the public to select their tree. The customer or owner will then cut down the tree and load it on the customer's vehicle.

For many families, choosing a Christmas tree has turned into a family tradition. Based on national averages, 34% of Maryland households purchase a real Christmas tree annually. Many choose-and-cut operators have capitalized on this by offering hot chocolate, snacks, decorations, wreaths, visits with Santa and tours. Some landowners may relish the opportunity to provide family entertainment for several hours; others may be interested only in growing and selling trees for wholesale markets.

#### Production Considerations

Trees planted as seedlings typically grow to harvest size in 7 to 12 years. Species most often grown for Christmas trees in the Northeast are balsam, Douglas, and Fraser firs. In the mid-Atlantic, the most common species are white, Scotch, and Virginia pines. The most commonly grown species in Maryland are, in order: Douglas Fir, White Pine, Colorado "Blue" Spruce, Scotch Pine, Norway Spruce, Fraser Fir, Canaan Fir and Concolor Fir. Different species have different establishment costs, management requirements, and marketability. In Virginia, for instance, white pine is the easiest and least expensive species to grow, but consumers desire it less than species such as Fraser firs, which bring a higher price.

In the first year, it is recommended that you plant only a fraction of the plot you eventually want to fill with Christmas trees. For example, if the species you

choose takes 10 years to grow to saleable size, you should plant only 1/10 of your land each year so you will have a continuous supply of mature trees over the years after the first ones reach maturity. Other experts recommend that new growers plant only 0.5 to 1 acre each year until a full rotation is completed. For first-time growers, this helps prevent mistakes from being made throughout large areas of the plantation. It also allows your customer base to build up gradually and makes the workload more manageable. You'll have a less expensive way out if you decide part way through the rotation that the life of a Christmas tree grower is not for you.

Before you buy trees, you should consult with an expert from the county Cooperative Extension office, a local office of the federal Natural Resources Conservation Service, or the county conservation district to select the site on your property that is best suited for production. The characteristics of the site will determine which species is the best bet.

For a choose-and-cut operation, you should consider access to the site by customers on foot, with wagons



Needles from a Blue Spruce tree at Pine Valley Farms

or carriages, or in cars. You may want to make the site handicapped accessible. Choose-and-cut operations may be more profitable than wholesale operations if the location is prime. Another advantage of choose-and-cut is that unsold trees can just be grown for another year and remarketed. A disadvantage is the loss of privacy from having customers tramping through your fields. You can also count on spending the weekends from Thanksgiving to Christmas waiting for customers.

Most trees are cut and sold, but the sale of live trees with root balls is growing. If your customers are environmentally aware, this may be a market worth exploring.

### Skills and Time Needed

One of the greatest limitations for a successful Christmas tree operation is the amount of labor involved. Experienced growers find that after trees are more than 3 feet tall, each acre requires about 40 hours of care per year. Labor and specialized knowledge are needed for planting, pest control, shearing, mowing, harvesting, and marketing. Land may need to be cleared of brush or trees before Christmas tree seedlings are planted. This is best done in the summer before planting, which is done in the spring. Shearing is often done during a 5-week period in early summer to give the trees the desired cone shape. Mowing is needed throughout the growing season. Potential growers should realistically evaluate the amount of time they are willing to invest, as well as the potential for hiring reliable local labor.

### Legal, Equipment, and Resource Concerns

Selling trees requires a Maryland Department of Agriculture Nursery inspection. Some areas in Maryland are quarantined for transport by grower or customer of live or cut trees to uninfested areas with without inspection. You should research your area through the MDA Plant Industries and Pest Management section.

If customers will come to your farm to choose and/or cut their trees, you'll need business liability insurance. You may need to upgrade roads and paths on your land and remove potential hazards so that cars don't get stuck and people don't get hurt. This involves implementing risk management techniques, which involves reducing potential hazards so that

accidents do not occur in the first place.

On small plots, all work can be done by hand so equipment costs can be kept low. Because of minimal machinery requirements, Christmas trees can often be grown on sites too rough or steep for other crops. Most small-time growers will need shovels, a small tractor, a mower, a pesticide and/or herbicide sprayer, shears, herbicides, pesticides, fertilizers, and trees. Generally, pines are not fertilized, but spruces and firs are. If your operation is choose and cut, you'll need signs, flagging, and gates.

Most growers purchase seedlings of selected varieties from private nurseries. But many states have state tree nurseries that sell seedlings for commercial use at bargain prices. Check with your state forestry agency for more information.

### Marketing Concerns

It pays to advertise your business long before the Christmas season. Area residents need to know that your business is there before they are ready to buy. The season is too short to wait for people to figure out that your business is there. The market area is small. A study in Virginia found that most people travel no more 25 to 50 miles to a choose-and-cut farm.

The wholesale season may start in October. The retail season generally starts immediately after



Mike's Christmas Tree Farm in Manorville, NY provides adequate parking for its customers.

Thanksgiving and is busiest on weekends in December. Experienced growers in Virginia say that it takes on average 1/3 to 1/2 person-hour to sell each choose-and-cut tree. Before you begin a Christmas tree plantation, you should consider whether this would pose a problem for your family.

If you intend to have a choose-and-cut operation or to sell trees at your farm, think about its accessibility.

Do the roads near you get enough traffic that people would know about or be able to find your operation? How far are you from a population center? How are the roads, especially in the winter?

The weather can affect Christmas tree sales. If December is usually very rainy, snowy, or icy in your area, a choose-and-cut operation may not be as profitable as selling trees wholesale or at a lot.

Trees must be top quality if they are to sell. The expanding ranks of growers allow customers to choose only the very best trees.

#### **Financial Picture**

Because Christmas trees take about a decade to grow to saleable size, the enterprise will probably operate at a loss for several years in the beginning. This can be partially offset by cutting and selling greenery tips for wreaths (see Holiday Greenery budget in his section). However, trees that are tipped will not be saleable as Christmas trees.

Costs of operating a Christmas tree plantation vary quite widely (\$3,000-12,000/acre for one production cycle) depending on the size of the operation. For a plot of less than 10 acres, you may only need a small riding tractor, a backpack sprayer, and shearing equipment. Larger operations will need more expensive tractor-mounted equipment.

Prices for finished trees vary quite widely with region of the country, species of tree, and type of sale. Scotch and white pines bring less than firs and blue spruces. Prices of about

\$25 per tree for pines and \$35 for spruces and firs are fairly common. Prices may be higher in urban areas.

Growing Christmas trees carries considerable risk. Trees can be rendered unsaleable by drought, frost, wildfire, insects, diseases, and wildlife damage.

The cash flow analysis that follows the enterprise budget breaks the costs and income down into yearly increments to assess when additional capital is required for expenses and when revenues can be expected. Lack of adequate cash flow is one of the greatest problems small businesses face. For more information on cash flow analysis, ask for a copy of "Assessing and Improving Your Farm Cash Flow (Fact Sheet 541) from a Maryland Cooperative Extension county office or download it from the Web site <<http://www.agnr.umd.edu/ces/pubs>>.

*Net present value (NPV)* is used in this cash flow analysis to take into account the effect of time on the money invested and revenues received. NPV is similar to "profit." The use of NPV removes the effect of inflation on expected returns over costs, and returns are discounted to the present. An investment with an NPV greater than zero is profitable. In our example, the discount rate used is 5% and the NPV for each year is provided. For example, the \$8,015 earned in year 9 is actually worth \$5,167 in today's dollar. The total NPV for all 9 years is \$14,619, which is the value of the investment in today's dollar.

---

#### **Sources Cited**

Illinois Cooperative Extension. Growing Christmas Trees in Illinois. <[http://www.ag.uiuc.edu/~vista/html\\_pubs/xmas/xmas.html](http://www.ag.uiuc.edu/~vista/html_pubs/xmas/xmas.html)>.

Johnson, J.E., W.A. Leuschner, and F.E. Burchinal. 1997. Economics of Producing an Acre of White Pine Christmas Trees. Pub. No. 420-081. Virginia Cooperative Extension, Virginia Tech, Blacksburg, VA. <<http://www.ext.vt.edu/pubs/forestry/420-081/420-081.html>>.

Johnson, J.E. and J.L. Torbert. 1997. Introduction to Growing Christmas Trees in Virginia. Pub. No. 420-080. Virginia Cooperative Extension, Virginia Tech, Blacksburg, VA.

Woods, Timothy. Economics of Christmas trees in Kentucky—An overview. University of Kentucky.

Mikes Christmas Tree Farm, Manorville, NY—[www.mikestreefarm.com](http://www.mikestreefarm.com)

#### **Other Information Resources**

Brown, J.B., W.F. Cowen, Jr., R.B. Heiligmann. 1991. Ohio

Christmas Tree Producers Manual. Extension Bull. 670, Ohio State University. <<http://ohioline.osu.edu/b670/index.html>>.

National Christmas Tree Association, 1000 Executive Parkway, Suite 220, St. Louis, MO 63141-6372; Phone: 314.205.0944; Email: <[info@realchristmastrees.org](mailto:info@realchristmastrees.org)>.

Maryland Christmas Tree Association—[www.mda.state.md.us/org/mcta.htm](http://www.mda.state.md.us/org/mcta.htm).

Office of Plant Industries and Pest Management—[www.mda.state.md.us/annual/plantpst.pdf](http://www.mda.state.md.us/annual/plantpst.pdf)

Pine Valley Farms, Sykesville, MD.  
[www.pinevalleyfarms.com](http://www.pinevalleyfarms.com).

#### **Publication Authors**

Jonathan S. Kays, Regional Extension Specialist, Natural Resources

- 3 Joy R. Drohan, Faculty Extension Assistant  
Western Maryland Research and Education Center

## CHOOSE AND CUT CHRISTMAS TREE ENTERPRISE BUDGET

Production time frame: 9 years		Tree planted / acre: 1200		
Acres in trees: 1		Trees sold / acre (75%): 900		
INCOME (3-year average for years 7, 8, 9)	Unit	Number Per Year	Price per Unit (\$)	Average \$/yr
Sale of trees, choose and cut				
- White Pine		100	30	3,000.00
- Scotch Pine		100	25	2,500.00
- Douglas Fir		100	35	3,500.00
- Other		0	0	0.00
Total number trees sold/year not to exceed	300	300		
<b>Total gross revenue</b>				<b>\$9,000.00</b>
<b>1st YEAR ESTABLISHMENT COSTS (for year 0)</b>				
Site preparation costs	acre	1	200	200
Trees/acre	tree	1200	0.24	288
Planting (chemicals, machinery, labor)	acre	1	150	150
Tools (clippers, etc.)	pieces	1	50	50
Miscellaneous		1	200	200
<b>Total fixed costs (1st yr establishment)</b>				<b>\$888.00</b>
<b>VARIABLE COSTS (3-year average for years 7, 8, 9)</b>				
Selection & coloring	acre	1	125	125
Harvesting	acre	1	250	250
Advertising	year	1	60	60
Insurance	farm	1	300	300
<b>Subtotal variable costs (years 7, 8, 9)</b>				<b>\$735.00</b>
<b>VARIABLE COSTS (yearly average for years 1-9)</b>				
Yearly stand maintenance	acre	1	150	150
Shearing	acre	1	100	100
<b>Subtotal variable costs (years 1-9)</b>				<b>\$250.00</b>
<b>Total costs</b>				<b>\$1,873.00</b>

**Assumptions for Enterprise Analysis:**

- 1) Area planted was a recently abandoned pasture.
- 2) The farm is in a suburban area 30 miles from a large city and has good road access.
- 3) The grower owns the land on which the trees are planted.
- 4) The grower owns a small tractor or driving mower.
- 5) Trees are white pines. Spruces and firs will bring higher prices, but costs may differ.
- 6) Each seedling is planted on a 6' x 6' area; total planting area is 3 acres.
- 7) Stand maintenance includes replacement of lost trees, herbicide, and machinery and labor for mowing 3 times per year.
- 8) Shearing starts in year 3 and is most time-consuming in years 5-8. The number provided is an average for the 9 years.
- 9) All costs and revenues were averaged over the 3-year production of trees.
- 10) Tree revenues occurred in years 7, 8, and 9.
- 11) All variable costs occur in years 7, 8, and 9, except stand maintenance/labor, which occurs every year.
- 12) Average tree price is \$25 for a 5-foot tree; \$30 for 6-ft, & \$35 for 7-ft. It is assumed that there are equal numbers of each size.

Cash Flow Analysis											
	Year									total	
	0	1	2	3	4	5	6	7	8		9
	\$/acre										
Income	0	0	0	0	0	0	0	9,000.00	9,000.00	9,000.00	27,000.00
Costs	\$888.00	\$250.00	\$250.00	\$250.00	\$250.00	\$250.00	\$250.00	\$985.00	\$985.00	\$985.00	5,343.00
Net annual returns	-\$888.00	-\$250.00	-\$250.00	-\$250.00	-\$250.00	-\$250.00	-\$250.00	\$8,015.00	\$8,015.00	\$8,015.00	\$21,657.00
Cumulative net returns	-\$888.00	-\$1,138.00	-\$1,388.00	-\$1,638.00	-\$1,888.00	-\$2,138.00	-\$2,388.00	\$5,627.00	\$13,642.00	\$21,657.00	\$43,314.00
Net present value		-638	-227	-216	-206	-196	-187	\$5,696.00	\$5,425.00	\$5,167.00	\$14,619.00