



Minnesota Forestry Research Notes

PRODUCTION AND MARKETING OF DOUGLAS-FIR CHRISTMAS TREES IN MINNESOTA

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Douglas-fir Christmas trees are grown in the Western states and in scattered locations in the East. The species is grown very little in Minnesota because seed sources hardy enough to withstand the severe winter conditions need to be identified by further testing. One of the few Minnesota plantings is located at the University of Minnesota Cloquet Forest Research Center in northeastern Minnesota. A sample of trees was cut from this planting in 1967 and marketed. This paper reports on the history of the planting, conduct of the research and success in marketing the trees.

The Douglas-fir were planted in 1950 and 1951. The seed was collected in Colorado from an unknown locality. There was little provision for interim care or cultural work after the initial planting. The untended plantation with a 4 x 4 ft. spacing and intermixing of species resulted in adverse conditions for the development of quality Christmas trees. Many of the Douglas-fir were overtopped causing poor crown development and deformed trees.

In 1966 a project evolved out of the increased concern for production of quality fir in Minnesota. A study was set up in the Douglas-fir planting with the following objectives:

1. To determine if the 15-year-old planting could be salvaged for Christmas trees.
2. To study the response to different cultural shaping techniques.
3. To attempt to market the trees to test consumer acceptance.

A total of 140 Douglas-fir was selected for the study. The trees were separated into height categories and randomly assigned to different groups dependent upon shaping treatment. Sixty of the trees were shaped in July, sixty during the dormant season and the remaining 20 served as control trees receiving no treatment.

The shaping was done by a process of shearing according to accepted practices. If needed, an initial cut was made on the terminal leader at a sloping angle above a single bud. If the leader was cut, all branches on the terminal whorl were also clipped to prevent them from competing with the leader. The crown was given a

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general clipping depending on the density and form of the tree. All cuts were made in new wood except in a few instances where protruding branches had to be removed back to the axil of a branch fork. Some basal scarring (stripping bark from the lower portion of the stem) was also tried to study its effectiveness.

The 1967 shaping work was of a less intensive nature. Many 16 inch leaders were left untouched on trees that were 1967 marketing possibilities. The marketable trees were kept in as natural a condition as possible by shearing only enough to maintain a symmetrical form.

The following summarizes the results of the cultural work:

1. There was no difference in bud development between the shaping done during the dormant season and during the growing season. However, dormant shearing of fir would appear to better fit into the work schedule of most growers.
2. As much as 72 percent of the 1966 terminal leader was removed without adversely affecting bud development.
3. Basal scarring gave satisfactory results in holding back leader growth. However, to insure proper crown development it appears that shearing alone or a combination of the two practices is most desirable.
4. Care must be taken when clipping the terminal leader to make the cut above a single bud or a multiple leader is likely to develop. Also, if the cut is made at a point on the leader where there is no bud, a crook is likely to develop near that point.

To test the receptiveness of the Douglas-fir on the market the planting was opened for cutting in 1967. A retail lot operator from the St. Paul market tagged trees to be cut. He was instructed to write the selling price together with any comments from the consumer on the tag. All tags were then to be returned to Cloquet at the end of the selling period. A total of 64 trees were cut from the plantation with 54 tags being recovered. The sales information is compiled in the table below.

TABLE
Summary of Prices Received from Douglas-fir Sold
on the St. Paul Market in 1967

	No. Trees	Av. Price	Av. Ht.	Price/ft.
All trees sold	54	\$4.80	8.0'	60¢
Non-shaped trees	11	3.50	7.9'	44¢
Shaped trees	43	5.15	8.1'	64¢
Trees marked down	16		7.8'	
Original price		4.60		59¢
Selling price		3.50		45¢
Price range on all trees sold = \$2.00-\$8.00				

The average height and price per foot figures shown in the table are based on height measured in the field before cutting. This height is most likely different than the height of the trees as sold due to the common practice of "butting-off" the stem. This would result in a higher price per foot than indicated in the table.

It was noted that 30 percent of the trees were marked down from the original asking price. However, the lot operator indicated that the Douglas-fir were all sold by the end of the first week in December, about six days after the lot opened. One can only speculate, but it appears that the markdown came too soon. If the original prices had been held, the average selling price for the 54 trees would have been \$5.20 instead of \$4.80.

The table points up the value of shaping work and marketing quality trees. The price received for shaped trees averaged \$1.65 higher than that received for unshaped trees.

The comments received from consumers are summarized below:

1. "Very good coloration, liked green color" (8 consumers)
2. "Beautiful tree" (6)
3. "Nicely formed tree" (4)
4. "Look just like the balsam fir" (3)
5. "More filled out than the balsam" (1)
6. "Too narrow" (1)
7. "Held needles well, long after Christmas" (5)

The last comment was received through later contact with consumers. The other comments are self-explanatory and indicate a receptive consumer attitude to the Douglas-fir. If the trees had been balsam fir rather than Douglas-fir, it is probable that the comments would have been similar because the two species have so many characteristics in common.

There are salient features about this study that should be noted. First, there were no cost figures kept as the economical feasibility of working with 15-year-old trees was not an objective of the study. Second, the sample of trees used in the study and the portion of the retail market sampled was indeed small. Third, many of the trees could have been held another year for additional cultural work which may have increased the quality and the prices.

This study adds to the existing recognition of the consumers desire to obtain quality fir Christmas trees. Growers must meet this desire and be able to fill the demand or they are liable to lose a portion of their market to the artificial Christmas tree industry. As a follow-up to this study plans are being made at Cloquet to test several Douglas-fir seed sources for hardiness and ability to respond to cultural work.

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