

CHRISTMAS TREE PLANTATION COSTS

NORTHERN-EASTERN CALIFORNIA

DOUGLAS FIR

Arthur Scarlett, Farm Advisor

Kent Olson, Economist

University of California

Cooperative Extension

January 1983

Plumas/Sierra

This study represents production from forest land cleared of brush species. The information should be used as a guide to analyze an individual operators Christmas Tree production and provides a means of studying various costs.

The production costs are based on a 100 acre plantation of Douglas Fir with rotations to produce an average 6 foot tree in 8 years with harvest planned over the last 3 years of the rotation. Because of various mortality situations over the rotation the studies show a planting of 2,500 trees per acre. A price of \$10.50 per tree is assumed. Equipment investment is based on minimum equipment necessary to operate a 100 acre plantation. Larger equipment is contracted for clearing and ripping.

CULTURAL COSTS: Including labor, whether hired or family.

Clearing and Rip - These costs represent complete removal of existing vegetation and loosening the soil prior to planting.

Planting and Replant - These costs are based on securing container or bare root stock for planting by hand methods. The necessary replanting has an average 30% for Douglas Fir.

Fertilization - Some growers utilize a fertilizer tablet placed at root depth adjacent to the root system at time of planting for added initial nutrients. Additional applications of nitrogen are made to improve growth and foliage color.

Shading - This practice appears of benefit in early survival of Douglas Fir. Immediately following planting, two, six to eight inch width shakes approximately 12" in length are placed on the south and west sides of the tree.

Herbicides and Maintenance - Annual applications may be necessary for weed control, mainly grasses. Brush resprouting may require treatment periodically to insure continued control of competition.

Shearing - A necessary item to obtain desired high quality trees. The costs represent 5 annual shearings for Douglas Fir.

Transportation - This cost includes travel to and from the plantation from headquarters, obtaining supplies, equipment and transporting workers.

Insects and Diseases - These figures identify the probability for needed control measures during the rotation. This item can be highly variable, depending upon problems encountered. The cost includes possible need for animal damage control.

Basal Pruning - This one year cost is for establishing the desired handle for a merchantable tree and identity of the best lower whorl of branches.

Misc. Cultural - The cost includes expenses as office, telephone, insurance, etc.

HARVEST COSTS:

The cost of harvest represents removal from the field to the stock pile. The loading identifies cost of loading out to buyers. Security costs reflect the need to invest in a means of protection during the Christmas tree season.

OVERHEAD COSTS:

Cash rent is set at \$100 per acre. Depreciation was figured for the items at the following estimated years of life: Building - 15, Equipment - 10, Rabbit Fence - life of plantation. Interest on equipment, fences, buildings and accumulated costs, was calculated at 14%.

DOUGLAS FIR WHOLESALE PLANTATION

Year	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
	----- \$/acre -----							
<u>INCOME</u>								
Christmas Trees						5,250	10,500	5,250
<u>EXPENSES</u>								
<u>Cultural Costs</u>								
Clear & Rip	300							
Planting	670							
Fertilizer	75							
Shading	35							
Herbicide	30	30	30	30	30	30	30	30
Brush control	13	13	13	12	12	12	12	12
30% replant		212						
Shearing			189	189	189	189	189	
Fertilization				69	69	69	69	69
Transportation	20	20	20	20	20	20	20	20
Insect & disease	7	7	7	7	7	7	7	7
Basal pruning				250				
Misc.	21	21	21	21	21	21	21	21
Interest on Operating Capital	<u>82</u>	<u>21</u>	<u>20</u>	<u>42</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>11</u>
SUB TOTAL	1,253	324	300	640	372	372	372	170
<u>Harvest Costs</u>								
Harvest						190	380	190
Load						65	130	65
Security						<u>26</u>	<u>26</u>	<u>26</u>
SUB TOTAL						281	536	281
<u>Overhead Costs</u>								
Land rent	100	100	100	100	100	100	100	100
Depreciation	62	62	62	62	62	62	62	62
Interest on Investment	42	42	42	42	42	42	42	42
Interest on Net Accumulated Cost	<u>0</u>	<u>204</u>	<u>306</u>	<u>420</u>	<u>597</u>	<u>761</u>	<u>253</u>	<u>0</u>
SUB TOTAL	204	408	510	624	801	965	457	204
TOTAL COSTS:	1,457	732	810	1,264	1,173	1,618	1,365	655
NET RETURN: (to operator's management and risk)	-1,457	-732	-810	-1,264	-1,173	3,632	9,135	4,595
ACCUMULATED COST: per tree (2,000 sold):	1,457 0.73	2,189 1.09	2,999 1.50	4,263 2.13	5,436 2.72	7,054 3.53	8,419 4.21	9,074 4.54