

COSTS AND PLANNING OF DOUGLAS-FIR AND  
PONDEROSA PINE STOCK FOR A FOREST  
NURSERY OF THE PACIFIC COAST

by

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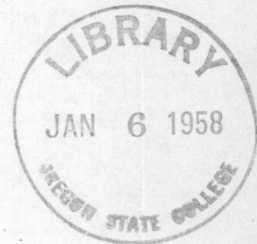
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## OUTLINE

### I. AREA AND SEED CHARTS:

- A. area in seed beds
- B. area in paths
- C. area of idle land
- D. Total areas

### II. MAJOR PROJECT COSTS:

- A. seed collection and extraction
- B. seed bed preparation
- C. sowing of seed
- D. sand cover
- E. shade
- F. weeding costs
  - 1. Douglas-Fir
  - 2. Ponderosa Pine
- G. Watering costs
- H. insecticides
- I. transplanting
- J. Digging
- K. Packing

## MAJOR PROJECT CHART

Totals showing:

1. major project costs
2. minor project costs
3. total cost
4. cost per M

### III. MINOR PROJECT COSTS:

- A. costs of nursery site per year
  1. land--interest--taxes
  2. improvements--depreciation
- B. cost of maintenance of soil fertility
- C. cost of tools and equipment  
per year and depreciation
- D. cost of general maintenance and repairs
- E. administration charges
- F. cost of services and labor
  1. total minor project costs
  2. distributed project costs
- G. cost of watering system
  1. material needed
  2. total cost of system



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# AREA AND SEED CHART

SPECIES	SEEDLINGS	NUMBER	SEED LBS	SEED BU (cones)	BED AREA SQ FT	BED AREA TOTAL
Doug-F 2-0	650	1,387,320 4%	32	41.5	5,925	23,700
Doug-F 2-2	420	1,387,320	32	41.5	31,600	63,200
Pond-P 2-0	520	1,529,383 40%	168	125.0	7,900	31,600
Pond-P 2-2	400	1,529,383	168	125.0	31,600	63,200

## I.

Area in beds each year, 181,700 sq.ft.

114 beds 4'x400' seedlings 6"x6" apart

Area in paths each year, 69,000 sq.ft.

Area in beds plus idle land(qualifying land untouched)

171 beds 4'x400'

Total area in beds and paths and total idle land

367,050 sq.ft.

Total area 367,050 sq.ft. 8.6

Area in roads .4

Area in buildings 1.0  
Total area of nursery 10.0

## II. MAJOR PROJECT COSTS:

### A. Seed collection and extraction;

#### Douglas-Fir

Collection 2,774,640 seeds or

83 bu cones, \$1.00/bushel 83.00

Extraction 64lbs 75c/lb 47.89  
Total 130.89

2-0 stock  $\frac{1}{2}$  of \$130.89 65.45

2-2 stock  $\frac{1}{2}$  of \$130.89 65.45

#### Ponderosa Pine

Collection 250 bu at 66¢/3 166.66

Extraction 337 lbs at 50c 168.50  
Total 335.16

2-0 stock  $\frac{1}{2}$  of \$335.16 167.58

2-2 stock  $\frac{1}{2}$  of \$335.16 167.58

### B. Seed bed preparation;

Douglas-Fir 2-0 stock  
5925 sq.ft. at 50c/1000sqft. 2.96

Douglas-Fir 2-2 stock  
5925 sq.ft. and 31,600 at  
50c/1000 sq.ft. 18.76

Ponderosa Pine 2-0 stock  
7900 sq.ft. at 50c/1000 sqft 3.95

Ponderosa Pine 2-2 stock  
7900 sq.ft. and 31,600 at  
50c/1000 sq.ft. 19.25

C. Sowing of Seed;

Douglas-Fir 2-0 or 2-2

5,925 sq.ft. x 2,500 ft at 50c \$1.20

Ponderosa Pine 2-0 or 2-2

7,900 sq. ft. at 50c/2,500sqft. \$1.60

D. Sand Cover:

Douglas-Fir 2-0 or 2-2 stock

5,925 sq ft at 875 sq ft./yard

of sand at 40c/cu.yd. \$2.84

labor at 1000 sqft./hr. \$2.97

Total for either 2-0 or 2-2 \$5.81

Ponderosa Pine 2-0 or 2-2 stock

7,900 sq.ft. at 875 sqft/cu.yd. \$3.62

labor at 1000 sqft./hr. at 50c \$4.95

Total for either 2-0 or 2-2 \$8.57

E. Shade

Douglas-Fir 2-0 or 2-2 stock

5,925 sq.ft. at \$2.50/400sqft \$37.02

labor at 4000 sqft per man hour

50c -- 5 down and 5 takeups/year 7.40  
Total \$44.42

Ponderosa Pin 2-0 or 2-2 stock

$\frac{1}{2}$ x7,900 at 2.50/400 sqft/-- \$24.70

5 downs and 5 takeups at

4000 sq.ft / man hour 4.94  
Total \$29.64



# F. Weeding Costs

D.F. 1-0 100sqft at 50cX 4 times/yr	\$118.56
2-0 400sqft at 50cX 2 times/yr	<u>14.82</u>
Cost of DF 2-0	\$133.38
2-1 2,000ft at 50cX 1 time/yr	7.90
2-2 2,000ft at 50cX 1 time/yr	<u>7.90</u>
Cost of DF 2-2	\$149.18
P.P. 1-0 100 sqft at 50c X 4 tim/yr	150.00
2-0 400 sqft at 50c X 2 tim/yr	<u>19.75</u>
Cost of PP 2-0	\$177.75
2-1 2,000ft/hr at 50c X 1t/yr	7.90
2-2 2,000ft/hr at 50c X 1t/yr	<u>7.90</u>
Cost of 2-2 PP	\$193.55

# G. Watering Costs

1-0 2 hrs X 30 days X 3 months	
times 50c/hour	\$90.00
2-0 stock 1½ hrs X 30 days	
X three months	<u>67.50</u>
Total DF&PP 2-0 stock	\$157.50
DF 2-0 ½ X \$157.50 or	78.75
PP 2-0 ½ X \$157.50 or	<u>78.75</u>
2-1 ½ hrs X 15 days X 2	
months X 50c/hr	7.50
2-2 ¼ hrs X 15 D X 2mo X 50c/hr	<u>3.75</u>
Total DF&PP 2-2 stock	\$11.25
DF 2-2 ½X\$11.25 plus \$78.75	\$85.38
PP 2-2 ½X\$11.25 plus \$78.75	<u>\$85.38</u>

H. Insecticides per year \$5.00

Considering equal distribution on  
each stock or \$1.25 for each PP or

DF 2-0 or 2-2 \$1.25

I. Transplanting

DF 650 M at 75c/M \$487.50

PP 520 M at 75c/M \$390.00

J. Digging

DF 2-0 650 M at .15c/M 97.50

DF 2-2 420 M at .35c/M 146.00

PP 2-0 520 M at .15c/M 78.00

PP 2-2 400 M at .35c/M 140.00

K. Packing

DF 2-0 650 M at 2c/M 13.00

DF 2-2 420 M at 25c/M 105.00

PP 2-0 520 M at 2c/M 10.40

PP 2-2 400 M at 25c/M 100.00

# MAJOR PROJECT CHART

Item	DF 2-0	DF 2-2	PP 2-0	PP 2-2
Seed Collection and EX	\$65.45	\$ 65.45	\$ 167.58	\$ 167.58
Preparing seed bed	2.96	18.76	3.95	19.25
Sowing	1.20	1.60	2.84	2.97
Sand Cover	5.81	5.81	8.57	8.57
Shade	44.42	44.42	29.64	29.64
Weeding	133.38	149.18	177.75	193.55
Watering	78.75	85.38	78.75	85.38
Insecticide	1.25	1.25	1.25	1.25
Transplanting		487.50		390.00
Digging	97.50	146.00	78.00	140.00
Packing	<u>13.00</u>	<u>105.00</u>	<u>10.40</u>	<u>100.00</u>
Total Major Project	\$ 453.72	\$ 1110.35	\$ 568.73	\$ 1128.19
Total Minor Project	\$ 305.08	\$ 1563.51	\$ 381.34	\$ 1563.51
Total Costs	\$ 758.80	\$ 2673.86	\$ 950.07	\$ 2691.70
Cost Per M.	\$ <u>1.52</u>	\$ <u>5.43</u>	\$ <u>1.96</u>	\$ <u>5.72</u>



### III. MINOR PROJECT COSTS:

#### A. costs of nursery site per year.

##### 1. Land-interest-taxes

land--10 acres at \$100/A (assumed)	\$1000	
Interest at 4%	\$40.00	
Taxes \$5.00/Acre	<u>50.00</u>	90.00

##### B. 2. Improvements 25 year depreciation

Superintendent's house	\$2500.00	
Packing house	1000.00	
Garage	200.00	
Dam	1000.00	
Sprinkling system	1693.00	
Fencing	<u>167.00</u>	
	\$6560.00	
Depreciation of Improvements	\$252.40	
Interest on investment $4\% \times \frac{1}{2}$	131.20	
Taxes on buildings 30mills $\times \frac{1}{2}$	55.50	
Insurance	<u>50.00</u>	
	\$499.10	\$589.10

#### B. Cost of maintenance of soil fertility

fertilizer at \$22.00/year

Total equals	\$ 22.00
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C. Cost of tools and equipment/year, 10 yr Deprec.

1. Pickup	\$800.00
2. Shop tools	200.00
3. Seed drill	60.00
4. Lifter	25.00
5. Seed extractor	25.00
6. Tractor plow 2 bottom	97.00
7. Harrow spike tooth	24.95
8. Angling tractor disc	93.00
9. Shot gun	8.00
10. Hand cultivator Accessories	9.00
11. wheel barrows 3	18.00
12. Rakes hoes showels spades	38.30
13. Axes saws wedges files etc	45.74
	<u>\$1444.49</u>

Depreciation on tools and equip (10yrs) \$144.45

Interest on investment  $4\% \times \frac{1}{2}$  28.89

Total cost/year of tools and Equip \$173.34

D. Cost of general maintenance and repairs.

1. Truck, fuel and repairs	\$200.00
2. Building	375.00
3. Dam and Water system	200.00
4. Fence	9.00
5. Lights for building	<u>36.00</u>

Total \$820.00

E. Administration Charges:

1. Superintendent's salary	\$2800.00
2. Fuel for Sup'ts house 5X12	60.00
3. Lights for Sup'ts house 2X12	<u>24.00</u>

Total \$2884.00

G. Cost of services and labor:

1. Tractor rent \$15/dayX5days/yr	\$ 75.00
2. Truck Driver 500 hrs at 50c/hr	<u>250.00</u>

Total \$ 325.00

3. Total Minor Project Costs

a. Nursery site costs	\$ 589.10
b. Tools and equipment	173.34
c. Soil and fertility	22.00
d. Maintenance	820.00
e. Administration	2884.00
f. Minor services and labor	<u>325.00</u>

\$3813.44

4. Distributed project costs:

a. Douglas-Fir 2-0 8% or	\$ 305.08
b. Douglas-Fir 2-2 41% or	1563.51
c. Ponderosa P 2-0 10% or	381.34
d. Ponderosa P <u>2-2 41%</u> or	<u>1563.51</u>

Totals 100% \$3813.44



G. Cost of Watering System:

1. 4 inch pipe installed	\$ 500.00
2. 2 inch pipe 940 ft.	188.00
3. 1 inch pipe 3025 ft.	279.81
4. Risers 17X6 ft (102)	15.30
5. Standards and seats 17X27X7 ft. plus 6c per seat	147.50
6. Gates 22" at \$2.89	5.78
7. Gates 17 1½" of 1.99	33.83
8. Reducing tees 3-2" at \$1.75	5.23
9. Reducing ells 18 1½" to 1"	2.85
10. Holes drilled and threaded 1010 yds at 5c per yard	50.50
11. Caps and coupling 1" plus 2"	11.00
12. Motors \$35 times 6	210.00
13. Hand unions 12 at \$2.50	30.00
14. Automatic flush valves 12 at \$1.00	<u>12.00</u>
Total Materials	\$1493.00

1. Cost of Fence:

a. 7 spools hog barbed wire at \$2.35	\$16.45
b. Steel posts at 33 1/3c 180 posts	60.30
c. Labor at 2 rods per hour	40.20
d. Corner posts 8 at 50c	4.00
e. Gates materials and labor	<u>6.00</u>
Total	\$126.75

2. Total Cost of System:

a. Ditch at 6'/hr 157 hrs	\$ 78.50
b. Covering ditch 10'/hr 94 hrs	47.00
c. Laying pipe 149 hours	<u>74.50</u>
Labor for installation	\$200.00
and total cost for system	<u>\$1693.00</u>