

COST REDUCTION IN NURSERY OPERATIONS

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When Mr. Hamner asked me if I would be on this panel, I told him I would be very happy, as that way I would have a front seat where I could hear all about cost reduction in nursery operations in other states.

The Kentucky Division of Forestry maintains three forest tree nurseries: Kentucky Dam Nursery, Gilbertsville, in western Kentucky, Pennyrile State Nursery, Dawson Springs, in central-western Kentucky, and Morgan County Nursery, Woodsbend in eastern Kentucky. The Kentucky Dam and Morgan County Nurseries are staffed with superintendents with degrees in forestry and non-technical nursery aides. The Pennyrile State Nursery is staffed with an experienced nurseryman and non-technical nursery aides. The Kentucky Dam Nursery and Morgan County Nursery are the larger, with the Pennyrile State Nursery the smallest and producing only hardwoods. All seed processing and storage are at the Pennyrile State Nursery.

Production cost at all three nurseries has risen steadily over the past 5 years. The four main factors are: increased hourly rate for labor, increased cost of production material and equipment; a decrease in seedling distribution due to direct-seeding and using a lesser density in our seedbeds to produce larger 1-0 stock. Also, white pine is being grown to 3-0 and yellow-poplar to 2-0 for some planters. The hourly wage rate in 1963 was \$1 per hour. In 1968, it was 51.56 per hour--a 56 percent raise. Production material and equipment has risen approximately 25 percent from 1963 to 1968.

COST OF SEED AND SEED TREATMENT (1968)	<u>COST PER M</u>
Average seed cost	\$ 0.700
Labor - seed storage	.001
Material - seed storage	.001
Labor - seed stratification	.007
Material - seed stratification	.001
Labor - seed treatment	.002
Material - seed treatment	.020
Labor - seeding	.028
Cost - seed testing	<u>.003</u>
	.763

COST OF SEEDBED PREPARATION (1968)		
Labor - break, disc, fertilize, bed former, fumigant		0.040
Material - fertilizer		.046
Material - fumigant		.387
Labor - install irrigation lines		.030
Labor - mulch with straw		.078
Material - mulch-treated straw		.150
Labor - mulch sawdust		.020
Material - mulch sawdust		.003
Cost - soil testing		<u>.007</u>
		.761
COST OF WEEDING AND WATERING (1968)		
Labor - selective herbicide spraying		.046
Material - selective herbicide spray	<u>1/</u>	.115
Labor - hand-weeding		2.356
Labor - watering		<u>.044</u>
		2.561
COST OF LIFTING AND SHIPPING (1968)		
Labor - lifting		.710
Labor - count, bundle, ship		.890
Material - sphagnum moss		.158
Material - wrapping		.047
Material - strapping and seals		<u>.026</u>
		1.831
	TOTAL	\$ 5.916

1/ Extreme year at one nursery, hand-weeding. Other two nurseries under \$1 for hand-weeding.

Other costs charged against seedling production:

MISCELLANEOUS - NURSERY (1968)		
Labor - building and vehicle maintenance		.290
Material - building maintenance, vehicle, operation, and maintenance		.733
Labor - plant cover crop		.037
Material - cover crop		.007
Labor - insect and disease prevention and control		.018
Material - insect and disease prevention and control		.014
Labor - ground maintenance		.250
Utilities -		<u>.505</u>
		1.854

SUPERVISORY PERSONNEL (1968)

Field personnel and aides	2/ 3.078
Frankfort office personnel	<u>.301</u>
	3.379

MISCELLANEOUS - ADMINISTRATION (1968)

Field office	.240
Frankfort office	<u>.093</u>
	.333

NEW EQUIPMENT AND BUILDINGS (1968)

Prorated at \$12,000 per year	<u>.800</u>
	.800

TOTAL \$ 6.366

GRAND TOTAL \$ 12.282

COST SUMMARY 1-0

Labor - production	1/ \$ 4.847
Material - production	2.408
Utilities and services	.515
Supervision and administration - field	2/ 3.318
Supervision and administration - Frankfort office	.394
New equipment and buildings	<u>.800</u>

TOTAL \$ 12.282

COST TO PRODUCE 1-0 SEEDLINGS TO 2-0 MATURITY (white and Scotch)

Labor and material - fertilizer	.010
Labor - hand-weeding	.840
Labor - insect and disease prevention and control	.003
Material - insect and disease pre- vention and control	.008
Supervisory personnel and administration (field)	.368
Supervisory personnel and administration (Frankfort office)	.043
Utilities and services	<u>.056</u>

TOTAL \$1.328 \$ 1.328

2/ Forty (40) percent on tree improvement projects.

The figures quoted are an average of all nurseries for Fiscal Year 1967-68 and will not be the same every year, or for each nursery.

Although experience in the use of fumigants and mineral spirits has eliminated some of the hand-weeding in the pine species, production costs need to be lowered through labor saving equipment and materials. The selling price of seedlings has remained the same in Kentucky for the past 10 years, that of \$8 per thousand for all pine and hardwood species.