

CONTAINERIZED NURSERY START-UP COSTS

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INTRODUCTION

About 4 years ago, I seriously began to entertain the idea of opening a containerized forestry nursery. During this period some of the timberland owned by American Forest Seed Service near Auburn University's Solon Dixon Forestry Center, located in Andalusia, AL, was being used for three out-planting test plots. The test plots compared growth rates between bareroot and containerized longleaf seedlings. Dr. Ken McNabb, a member of the Auburn University Forestry Staff, was in charge of this student research project. During one of his visits, I expressed an interest in growing longleaf pine (*Pinus palustris* Mill.) seedlings and asked his opinion of the possible start-up cost of a containerized nursery. He discouraged me, stating that it was an extremely high-cost business venture with a minimum start-up cost of approximately \$250,000.00. Well, let me now confirm his statement...he was right. I only wish \$250,000.00 were all I had invested in my start-up cost.

I, as a second year nursery owner, was asked to give a presentation on nursery cost because I am still in the midst of the struggle to make a "go" of it. If I am still in business after the second season of growing longleaf pine seedlings then I must have done something right, and therefore, I have been given time to share my new-found knowledge! What I am going to do is briefly share with you my experience in establishing start-up cost for my nursery with projected cost and income for the first 3 years of business.

DECIDING TO GROW LONGLEAF PINE SEEDLINGS

Two major considerations contributed to the decision to develop this nursery. First, there was the ideal location of Brewton, AL. Brewton is located within 75 miles of 20% of the remaining original longleaf stands. In addition, Brewton provides ideal growing conditions, seed sources, and local markets for seedlings. This broad market includes individual landowners, pole-lumber pulp mills with land bases, and military facilities. The second consideration was 4,000 plus acres of family owned timberland, one-third of which are longleaf pine stands. It was our goal to use seed from those stands and grow seedlings at this nursery to reforest the remaining acreage in longleaf pine.

With these goals and favorable conditions in mind, I began to research existing growing technology using containerized growing systems. I began my initial fact finding by contacting two very experienced people in the field of growing longleaf seedling crops. Philip Wilson of the Alabama Forest Commission's E. A. Hauss Nursery, a 25-year veteran, and Dale Larson, Gulf States Paper Corporation's Green County Nursery, a 14-year veteran, were contacted. With their technical guidance, I began to

compile information and pricing on a large array of items from growing containers and planting equipment to shipping boxes.

PLANNING AND DEVELOPMENT

The next process, planning and development, is a very personal one. It involved taking all this technical information and transforming it into my interpretation of how to get the job done. This stage needs to yield solutions that are workable, effective, and efficient, while remaining as economical as possible. In other words, the solutions need to work effectively; using the minimum amounts of everything to be able to afford all that is needed. Planning in this necessary economical manner must be done with great thought for immediate and future growth. For example, planning for a nursery with the initial intent to grow 800,000 seedlings in the first crop with future growth to 2,000,000 seedlings is somewhat different from planning a nursery with the initial intent to grow 2,000,000 with future growth to 10,000,000. The planning is different because the objectives are not the same, even though starting a containerized nursery is the same primary objective. Planning the smaller nursery could be carried out with a much more economical approach such as seeding the crops with hired seasonal or contract labor. The larger nursery would likely need to obtain mechanical planting equipment for increased seeding speed and to reduce labor costs. The handling of growing trays would also be different in each nursery. The smaller nursery could approach the task by hand-carrying trays to elongated, constructed wire tables (being the most economical tables to use), while the larger nursery would need a more mobile approach that would initially be more costly. The mobile approach would improve timing and reduce immediate/future labor costs. My nursery development goals were based on the larger nursery scenario, resulting in the necessity to develop a mechanical seeding ability accompanied by a mobile growing system, adding to the initial cost.

SELECTIONS AND DESIGNS

I selected a 45-cavity Regi-pot® container for my growing season and designed a mobile growing module that supports 64 of these units. Using this module in an 18-growing module configuration, I laid out two growing fields. An injection irrigation system was designed to water these two fields. Two deep-water wells were required to water both fields.

I am sharing these intricate details to illustrate all the designing, detailing, and selecting that must take place in the planning and development process before the pricing and budgeting process can begin.

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PRICING AND BUDGETING

Developing cost projections is the next process. This is a nursery cost projection based on Dr. McNabb's \$250,000.00 nursery start-up cost. Note that each category covered is based on information accumulated in the planning and development process. Nursery site preparation cost, well cost, irrigation system cost, container cost, and so on. Each category is broken down and is then priced to form the total cost projection.

Shown on page 2 of the price projection breakdown is the cost projection for nursery site preparation.

Page 3 reflects cost of an entrance road and secondary road, with total site preparation and road cost at the bottom of the page.

Page 4 reflects nursery well cost, irrigation cost and container cost; all carried forward to form the total cost projections for the first year budget.

COST/PROFIT & GROWTH PROJECTIONS (Start-up years 1, 2 and 3)

The final process, possibly the most critical, is calculating the cost, profit, and growth projections. These bottom-line figures must reflect calculated potential for immediate growth. It is extremely important to project these figures over a 3-year minimum period. Financing must be calculated past the first year, extending nursery financial needs into the second and third years. Nursery start-up cost should be based not on a first-year period, but on a three-year period. By planning extended budgets, unexpected

Nursery Site Cost Projections	
Nursery Site Cost (Year 1 & 2)	
Growing Site #1	1,650,000 Seedlings
Growing Site #2	1,650,000 Seedlings
Total Seedlings Grown	3,300,000
Site Preparation Cost	
1 ½ acres per growing site	
Sand/Gravel	\$4,752.00
1,071 yds @ \$4,4369 per yd (357 yds per site)	
Tractor Grading Cost	\$ 362.00
8 hrs @ \$45.00/hr	
Tract Hoe Cost	\$ 520.00
8 hrs @ \$65.00/hr	
Total Site Cost	\$5,632.00

low-yield crops that could prove to be critical to a first year can be made up or balanced out in a second or third year. A start-up nursery placing all available funding into a first-year effort without planning extended financing for the second season could lose it all because a first-year crop cannot be relied on to provide adequate financial returns to satisfy loans on first-year expenditures. The bottom line--adequate financial funding must be based on adequate planning and development with a 3-year projection of cost.

SMART START-UP FINANCING

1. Arrange financing for a 3-year period.
2. Consider leasing nursery equipment needed to achieve full tax deductions on equipment payments.
3. Nursery property -- Consider having the nursery stockholders owning property utilized by the nursery. Additional profits can be realized by owner/stockholders, and it adds to tax deduction, for the nursery.
4. Buy an adequate seed inventory for three growing seasons.
5. Seedling order deposits -- Consider a client deposit on seedling orders that will at least cover seedling labor cost.

I should have warned you that budgeting and financial discussions talks are never interesting, but extensive planning and detailed cost projection equal adequate financing. Do not be caught short. Remember, every necessary need left out of a cost projection is monetary output not planned for!

Nursery Site & Roads Cost Projections	
Nursery Road Cost	
1 Entrance Road 1500 feet Rock Surface	
From Highway 31 North to growing shed	
Flat Grades	\$2,520.00
560 yds. Rock/35 loads @ \$72.00 per load	
Low Grades & Pipe Covers	\$ 720.00
360 yds. Rock/10 loads @ \$72.00 per load	
SubTotal Entrance Road	\$3,240.00
2 Secondary Nursery Road	
800 feet	
Gravel Surface	
From growin shed to Gordon Lane	
230 yds gravel/15 loads @ \$72.00 per load	\$1,080.00
Road Surface Cover – Slag Rock	
162 tons/7.5 loads @ \$388.80 per load	\$2,916.00
Tractor Grading Costs for Roads	\$1,440.00
SubTotal Gravel Costs for Roads	\$4,320.00
Total Road Cost	\$8,676.00

Nursery Equipment Cost Projections

Nursery Well Cost	
Well - Deep	\$4,600.00
Well – Growing Shed	\$1,500.00
Total Well Cost	\$6,100.00
Irrigation System Cost – Equipment Cost per site	
Supply PVC Sch. 40 & Drain Pipe	\$ 853.86
Injector (Single)	\$ 936.25
Timer, Sprinkler Heads 2” RPA Back	\$3,226.27
Flow Prevention	
SubTotal Equipment per Site	\$5,016.38
Labor Cost per Site	\$3,000.00
Total Cost per Site	\$8,016.00
Total Irrigation system Cost for 2 sites	\$16,032.00

Nursery Cost Projections

1	Nursery Site Preparation:	
	Gravel Cover, Road, Tree Removal	\$14,292.00
2	Well Cost/2	\$ 6,100.00
3	Irrigation Systems	\$16,032.00
4	Containers – 52,000 trays	\$52,718.00
5	Growing Tables – 800	\$34,992.00
6	Planting & Potting Equipment (Lease/Purchase Agreement)	\$10,959.00
7	Reconditioned Fork-lift (Lease/Purchase Agreement)	\$ 3,891.00
8	Barn/Seed Shed Renovation	\$19,271.00
9	Pressure Washer & Tray Washer	\$ 315.00
10	Potting Soil – 7,499 cubic feet	\$13,388.00
11	Longleaf Seed – 2 2/3 year supply	\$34,152.00
	Refrigerated Seed Storage	\$ 1,000.00
12	Shipping Boxes	\$10,125.00
13	Computer – Start-up	\$ 0.00
14	Labor – Planting/Harvesting	\$49,440.00
15	Advertising –Caps & Brochures	\$ 2,499.00
	Total	\$269,174.00