

The Importance of Propagation to a New Nursery

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OBJECTIVE

The objective of this paper is to show how I used propagation to assist me financially in the rapid establishment of a 25-acre nursery in 6 years with only \$60,000 of financial assistance from the bank.

BACKGROUND

I grew up in a small town in North Carolina where I was exposed at a very early age to the field of agriculture. My grandfather farmed on 72 acres. On this farm he raised a wide range of crops including tobacco, beans, corn, vegetables, blackberries, blueberries, and livestock. From the time I was 4 years old, when I rode the tractor with my grandfather plowing the fields; I had a great interest in agriculture. In high school I studied agriculture and horticulture along with farming 25 acres of beans to earn money for my college education. I attended North Carolina State University where I studied horticultural science and worked for 2 years with a local landscape contractor and 2 years at the N.C.S.U. Arboretum. In 1989, I graduated with a B.S. in horticultural science. At this time I had made the decision to go into the nursery business.

GOALS OF THE NURSERY

Upon making the decision to enter the nursery business, I felt that I first needed to establish the goals for my nursery business. The family farm on which I was going to begin this nursery is located 12 miles south of Raleigh, N.C., and the Research Triangle Park. The area was voted one of the best places to live and do business in the country—therefore the market for plants was wide open, with the rapid expansion of residential and commercial construction. My goal was to take advantage of this market and produce a variety of trees, shrubs, and groundcovers for the local market on our 13-ha (32 acre) family farm.

INFRASTRUCTURE NEEDED TO ACHIEVE GOALS

Master Plan. A good friend and fellow nurseryman, Richard Currin, told me before I began this process of building a nursery that a master plan of my nursery would be needed. In creating this plan, I tried to come up with the necessities that would be needed and assign a cost to each of these areas. The list is as follows:

(1) Equipment	
Tractors (3)	\$30,000
Loader (1)	22,000
Dump truck (1)	14,000
Pickup Truck (1)	15,000
Equipment Trailer (1)	1500
Box Trailer (1)	3000
Nursery Trailers (20)	10,000

Golf Carts	5000
Misc. Equipment	<u>10,000</u>
TOTAL	\$110,000
(2) Structures	
Pump Houses (3)	\$ 25,000
Production/Storage Building (1)	5000
Office (1)	<u>12,000</u>
TOTAL	\$ 42,000
(3) Growing Facilities	
Propagation Houses (15)	\$ 23,250
Groundcover Houses (12)	65,100
Liner Houses (12)	65,100
Growing Beds (23 Acres)	<u>\$270,000</u>
TOTAL	\$423,450
(4) Winter Protection	\$ 95,000
(5) Pots, Media, Etc. (average cost)	\$205,000
(6) Labor	\$600,000
(7) Plants (average cost)	\$458,791

OVERALL PROJECTED COST — FINANCIAL GOAL: \$1,934,242

In studying these numbers, I felt that I was unable to change any cost, with the exception of the outlay for plants.

METHOD OF ACHIEVING FINANCIAL GOAL

How does one go about achieving the financial goal? In attempting to answer this question, I looked at four different ways to reach this financial goal:

- **Partnership:** One could take on several partners to financially back the nursery for future profits on their investment.
- **Corporation:** a local land developer sold investors shares for \$25,000 each per share to raise capital to purchase the land and develop it to sell lots. He retained control with 51% of the shares, and no personal money invested in his project. This route was decided against, because the average nursery takes 7 years to break even.
- **Bank:** One could borrow the \$1.9 million. This number computed to over \$25,000 per month for 10 years, which I decided against.
- **Propagation Nursery and Landscape Business:** In starting the nursery I began a small landscape business to get instant capital to purchase equipment that would be needed to build the nursery. The landscape business continued for 2 years while I began building the propagation nursery. I was told the average finished plant took 24 to 36 months to grow from a rooted cutting. If I began trying to produce finished plants the initial cost would

be too great and the return on my investment would be too slow. By beginning with propagation, the investment could be very small (comparatively speaking) and the return on the investment would be much faster. At this time the profits could be used to expand the nursery. For these reasons, I chose to begin with the combination of landscaping and propagation.

STARTING THE PROPAGATION NURSERY

The propagation nursery was started by building several very small and inexpensive cold frames measuring 1.5 m × 6.1 m (5 ft × 20 ft) in the summer of 1989. Many cuttings were successfully rooted that summer which would later be potted into 1-gal containers. During the winter of 1989 and 1990, the first 10 of the 12.2 × 3.7 m (40 × 12 ft) propagation houses were built and filled with winter cuttings. That spring the first two growing beds were put in, which covered about 0.4 ha (1 acre) in area. During the early summer of 1990, we began potting plants and immediately filled the two beds. That spring, summer, and fall the nursery was able to start selling some of the rooted cuttings. In 1991 over 150,000 cuttings were propagated of which many were sold for profits to construct beds number three and four as well as the first six groundcover and six liner houses. By this time the nursery was beginning to sell some 1-gal liners and build the 3-gal inventory.

We were no longer landscaping. All of the financial support was coming from the nursery. We then constructed growing bed number five and six more of each groundcover and liner production houses in 1992. At this time the nursery was propagating over 300,000 plants, producing over 150,000 liners, and growing over 150,000 groundcovers which are all short-term crops. We were producing a large number of 1-gal plants and building a large inventory of 3-gal plants as well as starting the production of 1/2-bushel-plant material. In 1993, three more growing beds (no. 6 to 8) were built, and an expansion of approximately 1.4 ha (3.5 acres) on which we potted nearly 240,000 1-gal plants. Also in 1993, five more propagation houses were built which brought the total to the current number of 15 propagation houses measuring 12.2 × 3.7 m (40 × 12 ft) each. We began rooting more cuttings and selling over 250,000 liners annually, while producing over 300,000 1-gal liners for the purpose of selling a percentage for profits to continue the nursery expansion and a percentage to shift to 3- and 5-gal containers.

In 1994 the nursery expanded with four acres of growing beds, 60% of which was used to add an additional 110,000 1-gal plants while the remaining 40% was used to grow 1/2-bushel, 10-gal, and 20-gal plants. As of this year, the nursery is selling many 1-gal plants and fewer liners as the liners are needed for our own in house production.

Currently, our objective for selling liners is this: to produce a surplus of what is needed for the nursery's use and, if we have excellent success, the excess liners will be for sale. We began the winter of 1995 with the addition of 0.6 ha (1.5 acres) used to produce yet 60,000 more 1-gal plants. At this time the nursery is producing over 500,000 1-gal plants annually, 100,000 3-gal plants, 16,000 5-gal plants, 7000 7-gal plants, 5000 10-gal plants, 2000 15-gal plants, and 2000 20- and 25-gal plants. All nursery assets that have been acquired were done so by using propagation to obtain profits with the exception of one bank loan debt of \$60,000 which has been completely repaid.

The Proof of the Pudding. The theory behind our approach in financing the nursery was to maintain a minimum debt by producing short turnover crops to quickly raise capital. The nursery used propagation to root and sell cuttings for profit, build the infrastructure, and produce more 1-gal plants for larger profits per plant unit. We did, however, sacrifice some turnover. But, as the numbers of plants in 1-gal production increased, the profits were greater, which in turn generated more capital for the construction of more beds and investment in larger plants—which helped in achieving our financial goal.

The current expansion plans for the fall of 1995 through the spring of 1996 seasons are to take a 1.2 ha (3 acre) property and put approximately 5000 each of 15- and 25-gal pots in the ground for pot-in-pot production of shade trees and larger screening and specimen plants.

IMPORTANCE OF PROPAGATION TO OUR FUTURE

Now that the nursery is more established, the profits are there to begin propagating less and buying more liners. At this time our decision is to continue production of our own liners with the exceptions of the plants that we do not economically propagate or to fill shortages. Since we are no longer selling many rooted cuttings, the goal is to stay 6 to 12 months ahead of our potting schedule with our liner production. For example, *Juniperus sargentii* is a plant that we want to produce approximately 20,000 1-gal plants and approximately 7,000 3-gal plants annually. The window for propagating this plant in North Carolina is very narrow, and occurs in the months of January and February. Also, the window for potting this plant as a bare-root cutting is very narrow, and occurs between 1 April and 15 May. The problem with this is that we consume a tremendous amount of space for 12 to 18 months and have very many plants ready to sell at one time. Our 1-gal production would work much better by dividing this into three different crops. This is especially true since we now are working with open spaces in the nursery that are approximately 223 m² (2400 ft²) as opposed to 1.6 ha (4 acre) tracts. How did we go about solving this problem?

Better Utilization of Propagation Space and Windows of Time for Optimum Propagation. We are now taking advantage of the propagating window, and rooting the number of cuttings needed in community flats to conserve space. We also stage out the cuttings in a 2½-inch pot so that they can be potted in the spring, summer, or fall. Trying to work this out with a propagator can be difficult, due to the changes in marketing projections versus actual sales. Propagating your own liners gives you more control of when you want the liners available and having the plants in the ideal growth stage for potting. Production of your own liners will give you more control over staging your cuttings for quicker turnover of your plants to create greater profits for you and your business.

SUMMARY

In summary, I hope that I have shown how one can use propagation to assist financially in the establishment of a nursery. By producing liners for quick profit, one can use these profits to construct a nursery without going into large debt.