

# CURRENT REFORESTATION DEMANDS ON SOUTHERN NURSERIES'

Robert P. Karrfalt<sup>2</sup> and Clark W. Lantz<sup>3</sup>

ABSTRACT-Forest nurseries in the southern U.S. are experiencing changing demands from several and widely varied sources. Government incentives for tree planting are decreasing but free market forces, disaster relief, and environmental tree planting might push seedling demand up. High turnover in nursery work forces, and a changing reforestation community present new challenges that nurseries must adapt to.

## INTRODUCTION

Present demands on southern nurseries have risen from several sources. There are more hardwoods, **longleaf** pine, shrubs and container seedlings. There have been changes in government incentive programs and very significant shifts in free market forces. More changes are likely. Tree planting for carbon sequestration came to the fore again following the Kyoto conference on green house gases. In Washington **D.C.**, there is growing awareness of the importance of non-industrial private forest land for timber production as one way to compensate for the loss of timber harvest from public lands. Additionally, there are changes in the reforestation community. Reforestation activity was once focused on well established agencies and companies. Now there are more seed collectors, more small private nurseries, continual turnover in nursery personnel, and many groups, such as the Arbor Day Foundation and the National Tree Trust, that are oriented toward the layperson. Southern nurseries will be challenged to find ways to educate and partner with this changing reforestation community.

## CHANGING SPECIES COMPOSITION AND STOCKTYPES

Over the last decade forest tree nurseries throughout the U.S. have initiated the production of many more diverse species than in past decades. In 1993, about 25,000 acres in the south were reforested with hardwoods. By 1997 that acreage had grown to 90,000 (Southern Group of State Foresters 1997). The interest in **longleaf** pine has increased dramatically as witnessed by the organization of the **Longleaf** Alliance. Southern state nurseries of course were effected by both of these changes with hardwood and **longleaf** pine production going up sharply. The number of species of hardwoods and shrubs produced increases every year for many nurseries. **Longleaf** container seedlings are very popular because of their higher survival and better initial growth under certain planting conditions. Despite a cost that is often double or more than that of bare root seedlings, the market for container **longleaf** seedlings continues to increase. Growing more species and

containers has helped support nursery operations by keeping revenues up, but has created new demands for the nursery manager. Because hardwoods, shrubs, and **longleaf** pine often have seed dormancy or low seed quality problems, managers have problems predicting inventories, using bed space efficiently, and maintaining cost-effective operations. Figure 1 illustrates the relationship between seed and nursery management effectiveness. Even with high quality seed and uniform germination, these species are challenging to the manager because they require more growing space and unique cultural practices. Growing larger pine seedlings is another recent trend affecting nursery capacity and costs.

## CHANGING INCENTIVES

With political pressures to reduce government spending, the money available for government cost share programs to encourage reforestation has been decreasing (fig. 2). This tends to lower the demand for seedlings. However, there are clearly some free market forces which are compensating for this loss of government incentive. Figure 3 shows how planting continues to increase on non-industrial private lands. Not only has the total number of seedlings planted on this category of ownership increased, but also

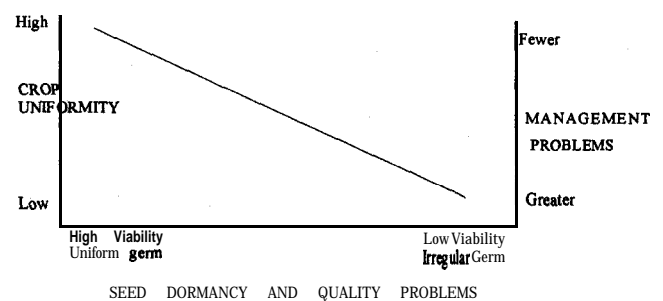


Figure 1-Seedling crop uniformity decreases and management problems increase as seed quality and seed dormancy problems increase.

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<sup>2</sup>Laboratory Director, National Tree Seed Laboratory, USDA Forest Service, Dry Branch, GA 31020; Tel: 912/751-3552.  
<sup>3</sup>Nursery/Tree Improvement Specialist • Retired, USDA Forest Service, Atlanta, GA 30367.

annually it accounts for an increasing percentage of all seedlings planted (fig. 4). A likely explanation for the increases on small properties is the loss of timber harvest on public lands and the current housing boom with low interest rates. These two factors have kept **stumpage** prices high, making reforestation for timber an attractive investment. The shortage in seedlings experienced over the last several years is additional proof that interest in planting trees is strong in the South. This shortage is likely to continue because the number of acres planted is currently less than half the number of acres harvested (Southern Group of State Foresters 1997). Furthermore, many of these unplanted acres possibly will revert to over stocked stands of low quality hardwoods and brush if not replanted within one to two years following harvest.

What events might occur that would change the incentive picture? Environmental crises and concerns might well have a major impact. The Kyoto conference on controlling greenhouse gases opened a discussion on carbon credits. Carbon credits would be the right to generate a certain level of CO<sub>2</sub> if compensating steps were taken to reduce CO<sub>2</sub> by another activity. At least some of these credits could translate into more tree planting. Such credits would bring new players into the picture such as power utilities who would pay for tree planting on private land instead of government. Large destructive wildfires have occurred in the last year in Florida and Texas. Reforesting parts of this burned area could have a major impact on seedling supplies. There is at least a slight chance that governmental disaster relief funds could pay for tree planting. Finally, there appears to be a growing concern that if timber production will not take place on public lands, then non-industrial private lands need to be a focus of the production of wood products. If free market forces do not make a full correction for the loss of public timber, then, government incentives to encourage reforestation and timber production could receive renewed attention.

### CHANGING REFORESTATION COMMUNITY

Changes in the makeup of the reforestation community are certainly placing new demands on southern nurseries. A need for many small seed lots of shrubs and other native species has encouraged more new seed collectors. More small private nurseries have begun to produce tree seedlings. **Longleaf** container seedling production has been especially attractive to this group of growers. Larger horticultural growers have also taken on container seedling production. There are also more groups than ever promoting the planting of trees. Is there a need to educate the new players in reforestation? Furthermore, what is the best way to educate the public on the importance of quality seedlings, species choice and seed source selection. Such problems were more manageable when reforestation activities were focused more within established agencies and companies. Almost everyone knew everyone who worked a nursery, seed orchard or seed plant. Information and expectations moved effectively in a more informal manner. Now that changes are taking place, the need to protect the consumer and the conscientious experienced provider of seed and seedlings is growing. Accreditation of nurseries and seedling certification are programs that could serve nurseries well by providing the layperson assurance

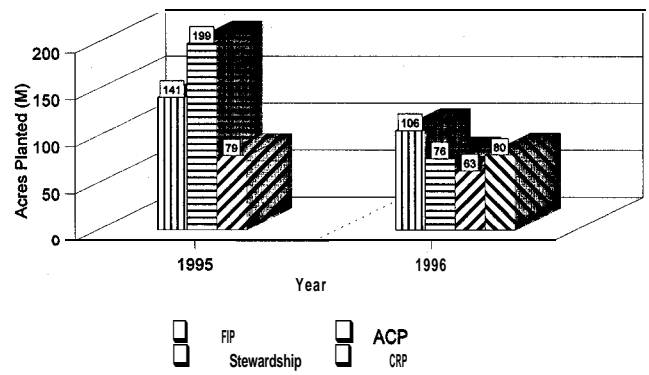


Figure 2-Federal cost share incentives have decreased in recent years. (Note: CRP figures not available for 1995) (USDA 1995, 1996).

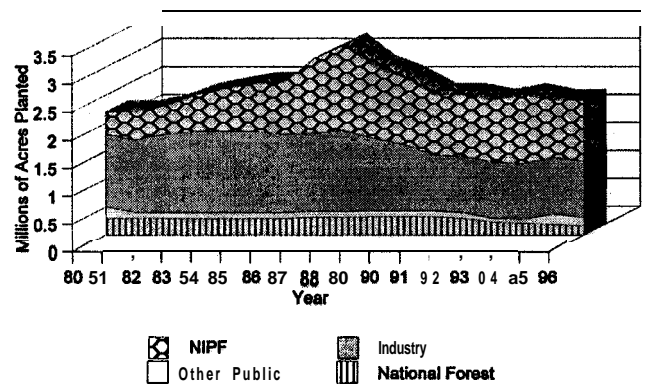


Figure 3-Tree planting by ownership has changed over the years (USDA 1997).

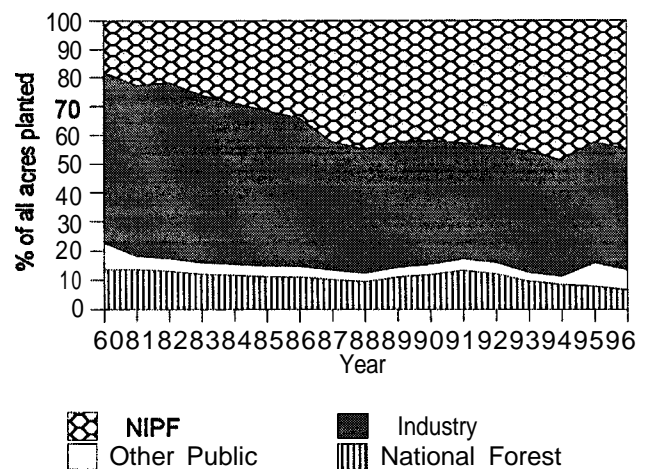


Figure 4—The largest percent (about 45 percent) of all tree planting now occurs on non-industrial private forest lands (USDA 1997).

that the seedlings they are receiving are quality trees and well suited to their needs. Additionally, such programs would demonstrate to the general public that reforestation efforts are conducted in the most environmentally responsible manner.

Regular turnover in nursery staffs appears to be part of the current employment picture, placing significant stress on nursery managers. These new personnel must be given training that quickly brings them up to competence without negative impacts on quality seedling supplies. Here again, a quality management program for nurseries will help meet this demand. In a quality management program, all important production steps are written down in operation manuals, with records kept to verify what was done, when it was done, and what to do if errors occur.

An additional educational challenge relates to the inappropriate transport of seedlings from one planting zone to another. Improper movement of seedlings may occur with absentee land owners who are not aware of the importance of planting zones. They might buy trees in their home state and innocently, but incorrectly, transport them to their land in another state where the seedlings are not adapted. In other cases, seedlings are transported for resale into planting zones where they are not adapted. The need for education is strongest when seedlings are in short supply. Faced with the choice of no trees or maybe the wrong trees, the temptation is to use whatever is available. This may result in reduced growth, poor form, or even failed plantations.

## REFERENCES

Southern Group of State Foresters. 1997. Southeastern States reforestation efforts 1996-1997. Macon, GA: Georgia Forestry Commission, Forest Management Department.

USDA Forest Service. 1995. Tree planting in the United States. 1995. Washington, DC: Forest Service, Cooperative Forestry. 18 p.

USDA Forest Service. 1996. Tree planting in the United States. 1995. Washington, DC: Forest Service, Cooperative Forestry. 17p.