WHAT THE NEXT DECADE HOLDS FOR U. S. TREE NURSERIES: A PROGNOSIS

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Abstract.--Changes in the U. S. Forest tree nursery industry are predicted for the period 1982-92, based on trends and speculation. Economic, biological, engineering, and resource management developments are integrated in the predictions. Resultant professional impacts on nurserymen are deduced.

Introduction

More than speakers from anywhere else, those from Washington, D.C. can truly say "I'm very glad to be here." Today I want to spend a few minutes talking about where we are and where we are going in the forest tree nursery business in the United States. In doing this I have the singular opportunity to provide you with this perspective from the vantage point of your Nation's Capitol. As you know the folks in Washington know what is going on in the Country and exactly what our direction should be for the good of all Americans. Working there, I share this knowledge, so bear in mind that my observations will have a degree of accuracy and relevance you are usually not exposed to in professional meetings of this sort. Certainly my assessment of the present nursery situation will be as precise as, say, the assessment King Louis XVI made of the mood of the French people in 1792. I believe he was guillotined in 1793.

Production Trends

My fellow professionals, we should be proud of ourselves. In 1981 we collectively produced over 1 1/2 billion tree seedlings for conservation planting. This is an enormous achievement. If we increase outputs of trees in the United States by 100 billion seedlings per year for a couple of more years we will be up to the production level of 1960! That was the high-water-mark of the Soil Bank Program of the Eisenhower era. For the sake of perspective, however, let's look at a few numbers covering the last ten years. The figures come from the 1971, 1976, and 1981 Forest Tree Nursery Directories of the United States. The data comes from many sources and varies in quality, but they're the best overall figures we have.

Production-wise the trends look good (Figure 1). You can see that the trend line is up and that it is steeper for the last 5 years than it was for the preceding 5 year period (1971-1976). Over

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Well, what does this all mean to us? What kind of crystal-ball projections can we make on the basis of these generalized data?

First let's assume the figures we have just seen represent true trends and that the economic forces driving them will remain rather constant. If this happens it is obvious the forest tree nursery business will continue to be a "growth industry." By 1986, when the next Nursery Directory is put together, there would be nearly 100 more nurseries and we would be producing over 2 billion trees a year (Figure 11). By 1991 there would be 500 tree nurseries in the U. S. producing 2.5 billion trees. In other words, by 1986, we may need nurserymen to operate 60-70 additional nurseries of an overall average size of 7.2 million seedling output. That's pretty simplistic. Much of the recent growth in nurseries has been in the south by forest industry. Right now about 70 percent of the national production of tree seedlings is in the south and the percentage has been increasing. If we assume it will increase to 80 percent by 1991, that means over 2 billion trees will be grown in the south, alone, at that time.

The average forest industry tree nursery output in 1981 was 12.5 million trees. I think you would agree that is small for the south. If we assume a 20 million tree average southern nursery size in 1991 and an increase of 900 million of trees output over the 10 years, that translates to 45 new southern nurseries of significant size!

While such speculation is interesting, it is still speculation. Forest nursery production has been subject to many ups and downs over the years. One need only remember the Soil Bank Program of the late 1950's and early 1960's and the CCC Program of the 1930's and 1940's to know this. In addition, recessions, like the present one, result in depressed wood markets, less logging, and finally, less tree planting. Over the last year there has been a great deal of surplus stock in the Pacific Northwest. These trees were "in the pipeline" when the logging slowed down out there. I assume sowing is greatly curtailed now.

In addition to the effects of the recession, which I think are transitory, there is presently a debate between the USDA Forest Service and the National Forest Products Association (NFPA) about the projected wood needs of the Nation. NFPA estimates are much lower than USFS estimates. Their figures are based on (1) projections of smaller houses with less wood in them, (2) more plastic packaging and less paper packaging, and (3) less use of newsprint and other paper because of advances in electronic mail, newscasting, etc. If these assumptions come true they may have a dampening effect on nursery expansion.

the last two five year periods the increase has averaged over 9 percent per year. If we break the growth down into private, Federal, State, and forest industry portions some interesting things emerge (Figure 2). Both the forest industry and private sectors have grown at a rate exceeding State and Federal outputs over the last five years. Forest industry puts out more trees than any other segment. Private, nonindustrial output exceeds Federal nursery production. If we compare State and industry outputs to the total (Figure 3) you can see they produce the lion's share of the tree seedlings.

Now, if you look at the number of nurseries, there has been a huge jump over the last decade (Figure 4). There has been a 61 percent increase just since 1976. If we break these numbers down into private, Federal, State and forest industry segments, a startling increase in the number of private, nonindustrial nurseries becomes apparent (Figure 5). I am not sure how valid this increase in numbers is. In 1971 and 1976 no aggressive effort was made to include them in the U. S. Forest Tree Nursery Directory. In 1981 there was. Also, in 1981, I am sure some private nurseries were included in the Directory which produced nearly all ornamental stock. Presented in bar graph form (Figure 6) the same trends are apparent, with Federal and State nurseries growing much more slowly in number than private or forest industry ones.

The average nursery output has increased from about 5.2 million trees per year to about 7.2 million trees per year (Figure 7). The rate of increase in size of output has decreased since 1976, but, again, I think this has been skewed by the increased numbers of private nurseries now included in the Directory. Breaking nursery annual output into private, Federal, State, and forest industry segments we find that forest industry average nursery output has doubled from 6.1 to 12.2 million trees per year since 1971 (Figure 8). The average Federal nursery output has decreased because of construction of a number of small container facilities, primarily by the Bureau of Indian Affairs. Comparing State and industry nursery average output for 1971, 1976, and 1981 in a bar graph (Figure 9) shows how State average production has changed little relative to the forest industry nurseries.

If we compare total nursery production trends and numbers of nurseries (Figure 10) we can see the number of nurseries is increasing at a faster rate than production. I think the lines are probably really about parallel. All the small private units recently included steepens the "number of nurseries" line for 1976-1981.

There is a lot of attention now to reduction of the role of the Federal Government in people's everyday lives: fewer social programs, smaller Government, etc. Many of the programs targeted for reduction are those where Federal money is granted to local government or individuals for various purposes. This means State and Private Forestry grants to State Forestry are vulnerable. The President has requested $1,145,000 for cooperative tree nursery improvement and expansion in fiscal year 1983, a 34 percent reduction from 1981. The Forestry Incentives Program (FIP) will not be funded in FY 1983 unless Congress inserts it in the budget. All these sorts of decisions can affect nursery production. On the other hand the pendulum can swing the other way just as fast. In FY 1982 six billion dollars were budgeted for crop price support subsidies. After seven months 10 billion dollars had been spent! Consequently there is some renewed interest in a Soil Bank-like program to get agricultural land out of production. Such a program could save billions in subsidies, get a lot of trees planted, and reduce crop surpluses.

Who knows what will happen? I don't. If we believe the past is prologue we can make some general guesses. Tight money and recessions suppress forest industry reforestation activity. These conditions sometimes increase government reforestation to create jobs in rural areas or to help landowners. Easy credit and a booming economy stimulate forest industry reforestation and National Forest reforestation following logging. Most economists foresee a period of tight money and sluggish economic activity to the mid-1980's followed by a sustained, controlled improvement with modest inflation. This tells me we should not expect growth in the tree nursery field as in the last 10 years, but it won't be real bad either. If something unexpected happens, like a new Soil Bank Program, all bets are off! We could be a pretty valuable bunch of people all of a sudden if that happened.

Regional Perspective

In general terms what is the status of tree nurseries and nursery practices regionally? Here are my observations as an individual:

South - Forest industry nurseries are becoming increasingly important. Nursery production is nearly all bare-root. There are some indications containers will be used for special purposes. There is a big shortfall in pine planting; much more pine needs to be planted to keep up with harvesting. More expensive improved seed is becoming available. This fact, along with escalating labor costs, is increasing nursery production costs and driving moves to greater sophistication of operation. A region-wide nursery cooperative, for technical assistance and special studies, has been formed. There is much planting to do and a good outlook for tree nurseries.

North - Compared to the west and south, not all that much planting going-on. The Region is dominated by underutilized hardwoods. Some new forest industry is moving into the Lake States and Maine to purchase land. Some container use has developed in Lake States and Maine also. However, it will not be a dynamic tree nursery situation until hardwood use and technology are more economically-feasible.

West - About 25 percent of the total nursery production is in the west and 85 percent of container planting. Federal nurseries are concentrated in the west. Nursery technology and management are advanced because a high land and labor costs and species diversity. Nursery production should stay at about current levels or increase slightly in the near future.

The Professional Nurserymen

More and more tree nurserymen are college graduates. They are usually foresters that have learned the nursery trade on the job. Large Federal, State, and industrial nurseries in the west and south are beginning to hire staff specialists at nurseries. Horticulturists are becoming more numerous. Increased nursery size and value of the crops support the development of staffs capable of dealing expertly and quickly with biological and operational problems and providing operational continuity even if a key member is gone. The specialty is becoming more complex. Graduate programs in tree nursery management now exist at Auburn University and the University of Idaho.

I think the future for forest tree nurserymen is bright. As forest resources are more intensively utilized in this country and forest product prices rise, there will be more application of intensive silviculture coupled to shorter rotations. There will be a need to return valuable forest land to production promptly. Genetically-improved planting stock will increasingly dominate forest regeneration thinking of silviculturists. These driving forces will create demand for more and better tree seedlings, produced in a reliable and scientific manner. This is where nurserymen come in. It will be up to us to cope with these demands and to implememt and incorporate the changes necessary to meet these demands. From slide rule to microcomputer, from green-thumbing to horticultural prescription, from horse manure to hydroponic fertilization, we can either go positively and grow to the job or loiter in the name of tradition and be dragged forward by inevitable progress.

There are two things, I think, we collectively must learn to do to keep up. The first is ask for help to solve problems. In my ten years on a nursery in Idaho I hated to ask for help. After all I was the specialist. But in fifteen years, two graduate degrees, and forty publications relating to tree nurseries, I admit fully, and with wound-licking wisdom, that no one knows it all in the tree nursery game. I know I am not telling the veterans here anything new. So ask for technical help. The specialists may not tell you all you need to know or what you want to hear, but its better than blaming failures on acts of God. That only works so many times and then the boss wises-up!

Secondly, as your nursery grows in size and/or the job becomes more complex and technical, hire a competent staff and use all their talents. If you have to spend more and more time on management, hire a horticulturist to help out on the growing. It's so easy to forget how valuable, in dollars and cents, that crop in the field is. At every opportunity remind your boss of that fact. Less and less will we be able to run tree nurseries "on the cheap." Hire, and wisely use, an adequate staff.

Always remember you are one of an elite group. All the tree nurserymen in this Country could fit on one jet airplane. We have an admirable profession. Let's all continually upgrade its standards and add to its luster.

REFERENCES

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A Directory of Forest Tree Nurseries in the United States. 1976. USDA-Forest Service. Unnumbered Report. July. Washington, D.C. 23p.

1981 Directory of Forest Tree Nurseries in the United States. American Association of Nurserymen, Inc. 230 Southern Bldg., 15th and H St. N.W., Washington, D.C. 40p. ($2.25 each).

FIGURE 1.TOTAL NURSERY PRODUCTION

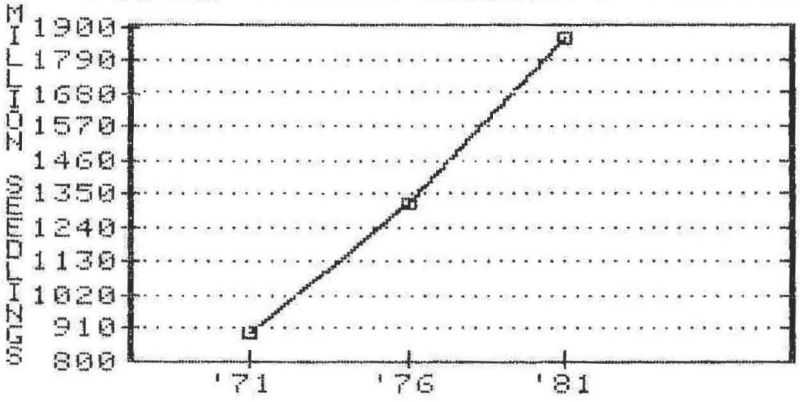

FIGURE 2.NURSERY PRODUCTION

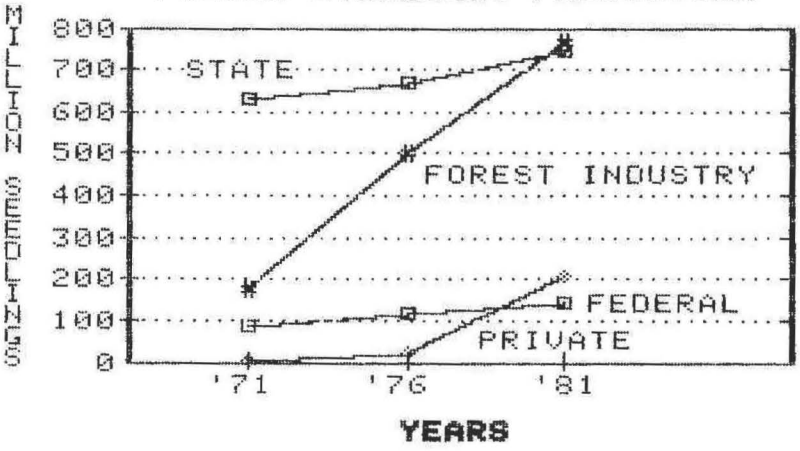

FIGURE 3.NURSERY PRODUCTION

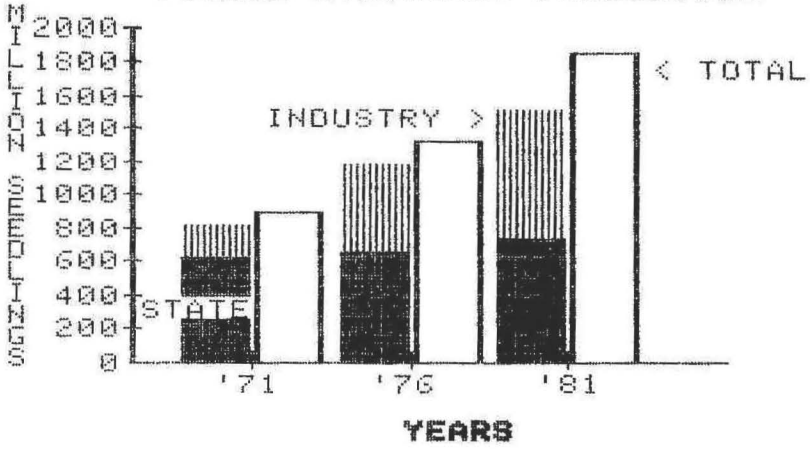

FIGURE 4.NUMBER OF NURSERIES

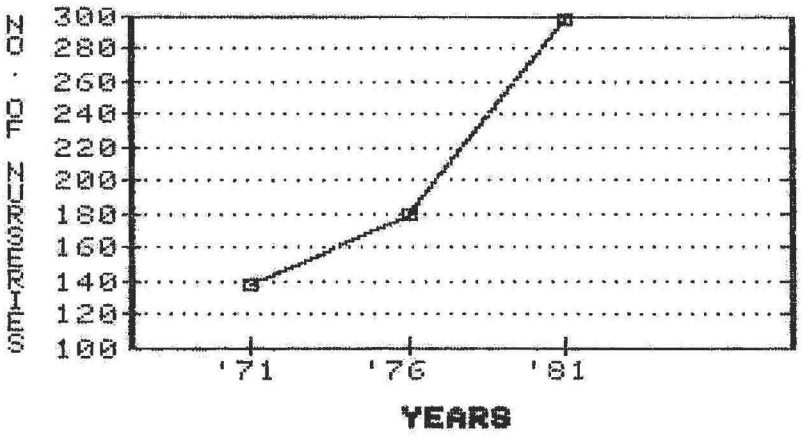

FIGURE 5.NUMBER OF NURSERIES

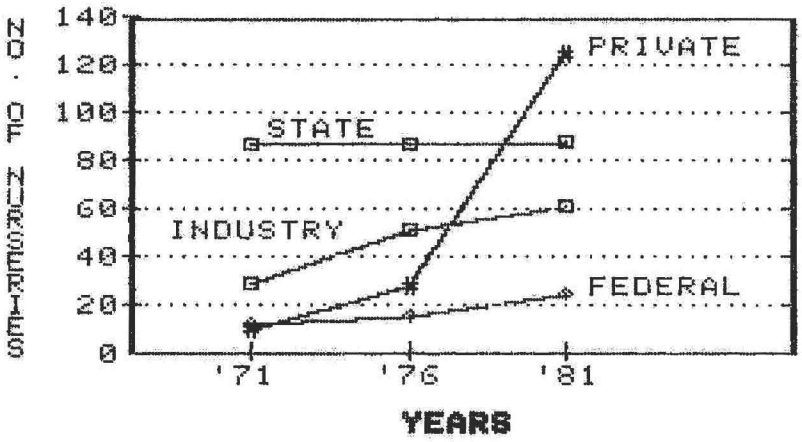

FIGURE 6.NUMBER OF NURSERIES

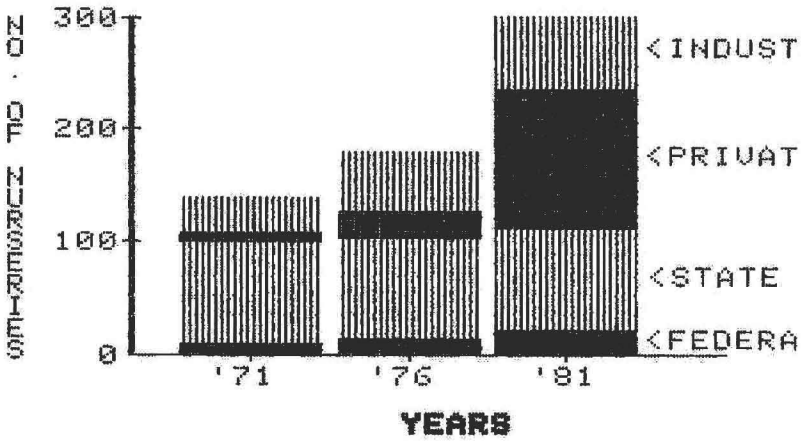

FIGURE 7.AVERAGE NURSERY OUTPUT

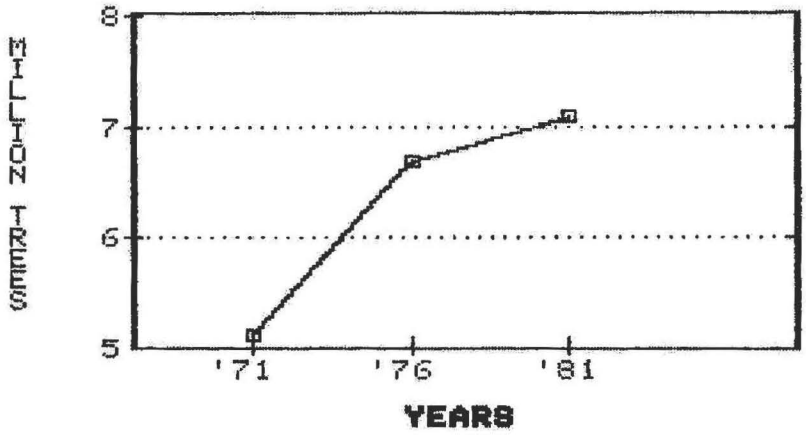

FIGURE 8.AVERAGE NURSERY OUTPUT

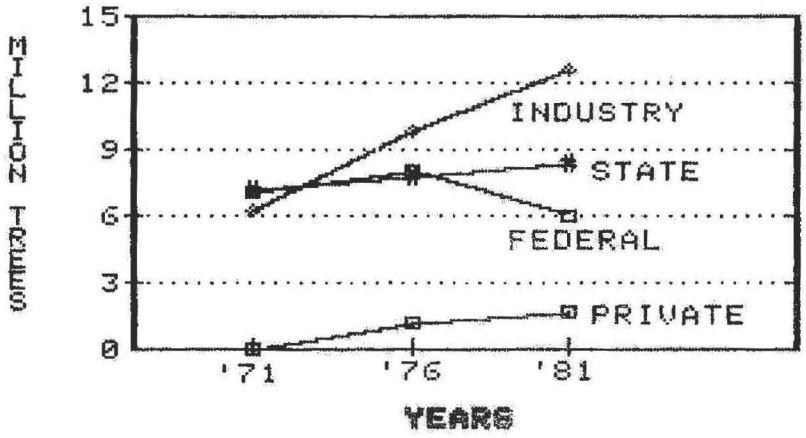

FIGURE 9.AVERAGE NURSERY SIZE

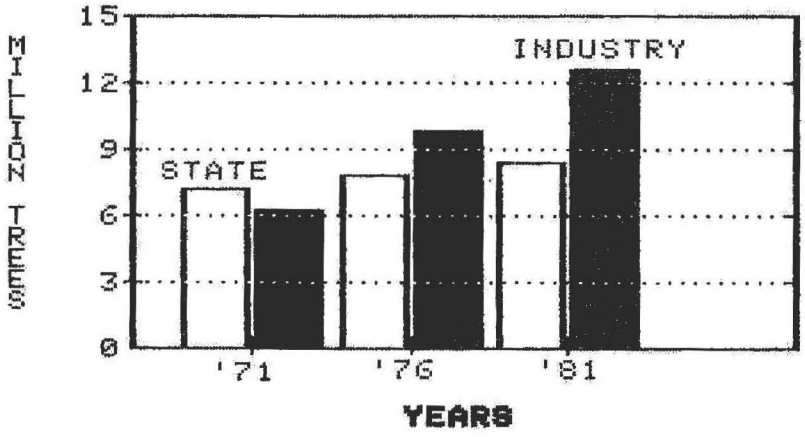

FIGURE 10. NURSERY PRODUCTION/NUMBERS

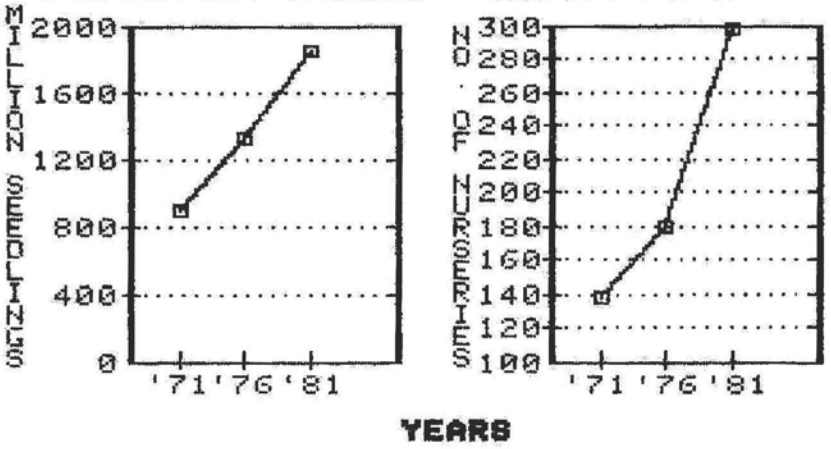

FIGURE 11. TRENDS·NURSERIES/TREES