

NURSERY SOIL MANAGEMENT

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(Panel Moderator)

Today we are meeting to discuss seedlings by the millions. The results of our discussions and activities will provide for this to change to dollars by the millions.

This statement is not the loose quoting of big, status sounding figures, or braggadocio, or a fantasy induced by an LSD trip. It is the unvarnished truth. It is a fact that each of us in this room has a part in producing the millions of seedlings that will be planted in the South this year. In a little over a score of years, the growth of these millions of seedlings will be utilized to pour millions of dollars into the economy of the South and the nation. Our talk of millions of seedlings today means millions of dollars tomorrow.

SOIL

Nursery seedling production is one of the important basics in reforestation, and certainly soil management is one of the important basic nursery practices. From the soil stems all the seedlings grown in the nursery, hence correct management is most important. In fact, all seedlings stem from soil. This includes those produced in natural regeneration and those from other methods of man influenced regeneration (direct-seeding). Following this soil thing further, it should come as no surprise that all trees grow in soil. Soil is a "big thing" in growing trees. It is of great significance in forestry.

State and other forestry organizations are made up of personnel necessary to provide for successful forestry programs. Specialists are dotted throughout these organizations, which vary in size from 200, 500, or more employees. Secretaries with their mysterious shorthand for correspondence; accountants with wizardry around calculators; radio technicians analyzing the intricacies of radios and microwaves; pilots to perform the impossible task of flying like a bird; forest fire control specialists of all kinds; timber management specialists of various types; maybe insect and disease specialists; maybe geneticists; maybe marketing and utilization specialists; maybe recreation specialists; and several kinds of information and education specialists; sundry experts equipped with knowledge in their particular area to advance forestry.

1/ Panel presentation. Papers of panel participants are included.

Since soil plays such a significant role in the production of quality seedlings and the proper growth of trees, perhaps there is room for a soils specialist in our forestry organizations. The nurseryman is constantly looking for assistance in his soil management program and answers to the whole spectrum of problems that originate in the soil. "Who shall we turn to?" Mycorrhizae just can't be the whole bit.

QUALITY SEEDLINGS

Quality seedlings, however, is the whole bit. If it can be said that there is one reason for us all to be here today, that reason is that we are all interested and concerned in the production of quality seedlings. That is the goal of all tree improvement people and all nursery people.

The goal of quality seedlings is not a definite peak that once you achieve it you are home safe. Rather than a peak, the goal is a plateau. When the searched for goal is reached, the quality seedling has evolved into a much higher goal. So, it becomes a series of higher and higher plateaus that are ascended in the quest of the "quality seedling."

Basically, the whole concept of nursery stock quality is the capacities of the seedling for survival and growth.

Morphological qualities were the first criteria for the quality seedling. The external form, or size of the seedling, was the measuring device for determining the quality seedling.

Physiological qualities, the nonvisible characteristics within seedlings became the important ingredient for quality seedlings.

Geographical seed source was the next arrow in the bow in shooting for the quality seedling.

This opened a whole new can of worms--quality seedlings begin with quality seed. The magic circle appeared--good trees mean good seed; good seed means good seedlings; good seedlings mean good trees.

Seed production areas was a road to travel to get quality seedlings. Inherently, the selected remaining trees must have something to make them excel over the other trees in the same environment.

Superior trees: Inherent being somewhat synonymous with genetics, improved strains of trees will provide quality seedlings.

Cross-pollination: The controlled approach to incorporate the desired genes in the embryo of the seed to produce the specific kind of desired quality seedling -- "controlled" pollinating. Not the

helter-skelter, "dukes mixture" caused by every S. O. Bee and her sister who has her stinger out.

BACK TO EARTH

"It goes on and on. Where it will stop, nobody knows." It is all right to have your head high in air talking to the clouds, if you have your feet firmly placed on the ground. Let's get back to earth and get down to the nitty-gritty of growing seedlings. The place to grow seedlings is not in books, or meeting rooms, or formal papers, but in earth, in soil.

To achieve that phenomenon we have assembled this very fine panel of authorities on soil and its relationship with forest tree seedling production. Seed, no matter the quantity or the quality, can make no contribution to forestry until the seed are placed in the soil. Then the extent of the contribution depends largely upon the productivity of the soil.

If we are going to build something great, let's begin with a solid foundation. Soil is certainly the foundation for seedling growth.