

IS BARE ROOT STOCK PRODUCTION OBSOLETE

by

Lee L. Mason

Nursery Superintendent

Coeur d' Alene Nursery, Idaho

I think that most of us nurserymen in this room feel secure in our ability to produce high quality bare root seedlings which have good survival potential and are getting the reforestation job done for our field people.

Many of our techniques and nursery cultural practices have been developed over a long period of time and our product has been field tested and field survival data is available to attest to its performance. Our keynote speaker, Wayne Hite, expressed concern that nurserymen and land managers adopt a two-way street for reforestation problems. We, in the Northern Region, have recognized this and, as our Regional Reforestation Specialist, Dr. Peter Laird is headquartered at the Coeur d' Alene Nursery, we have the opportunity to discuss mutual problems from seed to nursery cultural and field survival. One of the best examples of the ability of bare root nursery stock to do the reforestation job has taken place in Region L. In 1965, first year survival in this region was roughly 20 to 40%. Under the leadership of Al Dahlgreen, Regional Silviculturist, they have increased their first year survival to 88% in the 1974 program. Nursery stock was supplied by the Lucky Peak and Coeur d' Alene Nurseries. In this period, both nurseries have improved the quality of their stock, but each step from seed to plantation establishment has improved or this huge increase in survival would not be possible.

I would like to touch briefly on some areas which we as nurserymen should consider in bare root production:

1. Development of a calibrated nursery seeder. This should have the capability to meet sowing requirements for all species which we produce, as density of seedbeds is one of the keys to good nursery management. In the recent nursery equipment survey (state, federal and industrial) which the Missoula Equipment Development Branch just completed, this was the item which received the most requests for development. The center is presently screening all seeders now on the market. This project is now funded at the Washington Office level and we can hope for development of a seeder which meets our individual nursery requirements.
2. We have been producing nursery seedlings and storing them under many conditions without biological concern since nurseries have been in operation. We must set standards which will meet dormancy requirements and develop cold storage regimes which meet biological needs of individual species and provide a quality seedling at the time requested by a land manager.

3. we should attempt further refinement of techniques in fumigation, disease control, fertilization and development of a clearing house for nursery cultural techniques. This can probably best be achieved by soliciting help from Research, State and Private and Equipment Development Centers.

I would now like to touch briefly on container growing -

Many of us attended the Container Growing Symposium at Denver last August and were awed by the magnitude of the container program. Most of us are aware that these programs have really "caught fire" in Washington, Oregon and British Columbia. Frank TerBush's Forestation Notes of May 29, 1975 have supplied some interesting nursery production figures for Washington and Oregon.

<u>Year</u>	<u>Production</u>
Container 1975	43 NM
Bare Root 1975	183 NM

Capacities of year 1976 are rated as follows:

Container	49 NM
Bare Root	225 MM

In summary, 81% of nursery production is in the bare root category.

In the Rocky Mountain area, which we represent, we have an entirely different relationship between bare root and container production. Container operations are as follows: Colorado State Nursery, Fort Collins; U.S. Plywood Corporation, Champion Division, Bonner, Montana; St. Regis, Libby, Montana; Coeur d' Alene Nursery (USFS), Coeur d' Alene, Idaho; Pilot Program at the University of Idaho, Moscow, Idaho. New facilities for State Forestry of Kansas at Manhattan, Kansas and Bureau of Indian Affairs at Poison, Montana. We also have an industrial installation (Conifer, Inc. at Cashmere, Washington) which is producing containers for forests east of the Cascades.

I have no overall production figures for container and bare root but container growing has not "caught on" in the North Rockies like it has in the Pacific Northwest.

In the past two years I have had the opportunity to see most of the greenhouse operations in the Western United States and Canada and it appears that we in this interior area face many problems which West Coast and Canadian operations have not had, mainly we are faced with growing schedules for nine species while Douglas-fir is the predominate species grown on the West Coast. Dr. Tinus' help in developing growing regimes has been invaluable, but we are also faced with different container sizes based on more severe ground conditions. Our present container program within the Northern Region is based on approximately 600M annual production. We are attempting to broaden our field testing to include all forests in the region. This will provide a much broader base and will also develop techniques in care in planting at the district level.

In summary, my personal observations are that we will continue to improve the quality of our bare root stock, but will also receive additional benefits from our pilot program in container growing. It will provide greater flexibility and will allow for quick program changes, such as fire or insect damage. It will allow us to provide planting stock tied to field planting schedules without allowing for long term storage and will make better use of high value seed in our tree improvement program.