

# The Nursery Situation in the Interior West in 1979<sup>1</sup>

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Abstract.--Describes recent forest tree nursery growth in the interior western United States. The short-term future development of nurseries in this area is prognosticated.

## INTRODUCTION

I don't mind telling you I feel a little presumptuous about reporting to the Inter-mountain Nurserymen's Association about the state of nursery affairs in the interior. This is because it is the area this association covers and some of you may know more about what's going on here than I do. Nonetheless, with my usual gall and egotism, I will plunge into the subject.

By "interior west", as it is used in this brief presentation, I mean those states not having a Pacific Ocean shore and west of about 90° west longitude. I don't need to tell you fellows that this is a huge geographic area that is climatically and topographically diverse. Consequently, nursery operational methods and products are diverse, too. The area is characterized by extremes in weather that can really cost a nurseryman his hair. Our host, John Scholtes, is living proof of that! Also, the nurseries are generally widely separated in this area so nurserymen here seldom have a fellow nurseryman to tell his troubles to. This situation is so serious that intermountain nurserymen are sometimes reduced to telling their troubles to itinerant peddlers or, even nursery specialists. But, joking aside, the interior west's nurseries do operate under variable, and often extreme edaphic and climatic conditions, and the nurseries are widely separated.

Another characteristic of the tree nursery situation in the interior west is the diversity of nursery products that exist. These not only

include the usual small bare-root and containerized conifer seedlings grown for forest planting, but also very large bare-root and containerized hardwood and conifer seedlings for shelterbelt establishment and for arid site planting. At the Colorado State Nursery at Fort Collins, for instance, Marv Strachan raised large bare-root conifer stock, medium and large containerized conifer stock in greenhouses, a large containerized stock in tarpaper pots in shadehouses. This type of product variability is not the image many people carry in their minds when thinking about a forest tree nursery. Each added product type, of course, adds to the complexity of unit operation.

## RECENT HISTORY AND PERSPECTIVE

The growth in the number of tree nurseries in the interior west in recent years has been phenomenal! The 1975 directory of forest tree nurseries indicates there were 17 nurseries in the interior (USDA Forest Service, 1975). This is illustrated in Figure 1. At present, there are about 33 tree nurseries in operation - a 94 percent increase in four years! Their numbers, by state, are shown in Figure 2. Almost all of the new nurseries are small, relatively and produce containerized seedlings in greenhouses. The exceptions, of course, are the Forest Service nursery in Albuquerque, which large and will soon be producing large number of bare-root seedlings, and the Utah State Nursery, south of Salt Lake City, at Draper, Utah.

Good production figures for the interior west are not presently available. They will be compiled for the new nursery directory to be printed next year. In 1975, the interior west produced about 20 percent of the trees grown in the west. At that time, that amount to about 44MM trees or 14 percent of all west production. I would estimate that the interior west is presently still producing about 15 percent of western production or about 50MM trees per year now.

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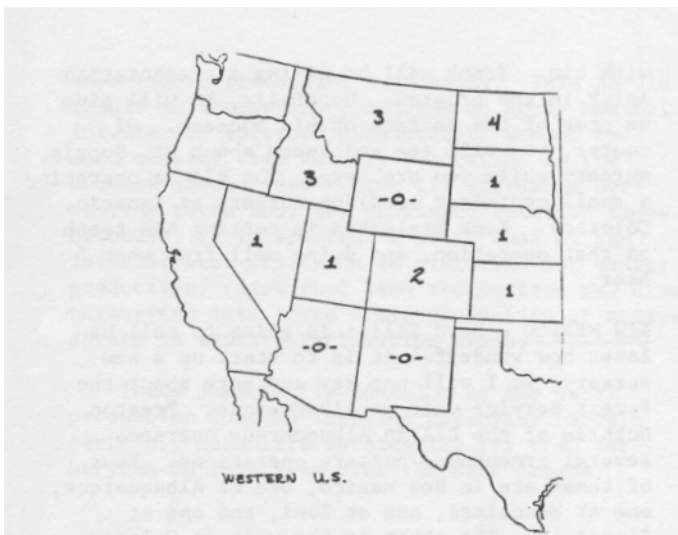


Figure 1.--Interior West Tree Nurseries (1975)

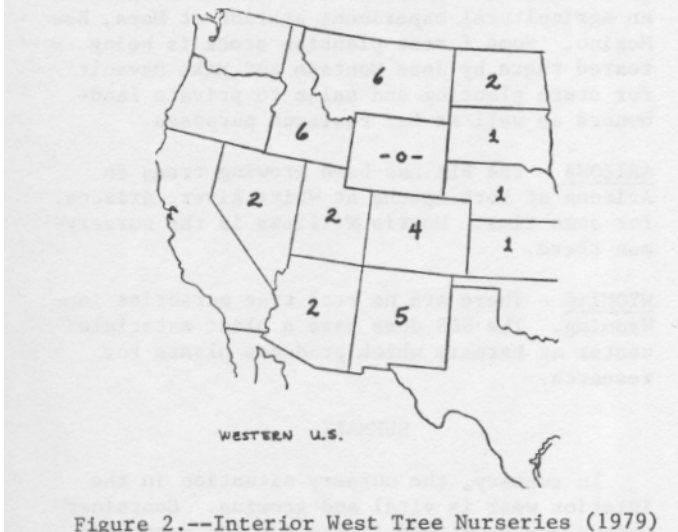


Figure 2.--Interior West Tree Nurseries (1979)

Compared to the approximately 300!M per year grown in the Pacific Coast states, the 50MM trees grown in the interior, over the immense geographic area, seems relatively unimportant. However, the importance of tree planting in the interior cannot necessarily be measured by numbers, especially when shelterbelt and arid land plantings are considered. For instance, the Great Plains Region, a considerable part of which falls into the area known as the "interior west", is of special importance to the United States. The Great Plains cover one-fourth of the total conterminous area of our country. Sixty-five per-cent of our wheat and 90 percent of our grain sorghum is grown in the Plains (Griffith, 1976). It is a region of climatic extremes where the wind seldom stops blowing. Trees are needed to protect land from wind erosion, protect

animals (over one-third of all our cattle are on the great plains), benefit birds and game, protect farmsteads, and, possibly most important of all, provide esthetic benefits to those who live on the plains (Davis, 1976). So, while the numbers of trees planted in the Plains are not huge, the benefits of that planting are very great. The same is true of trees planted in the Rocky Mountains. Here again, the numbers planted are not that great, but forest regeneration is critical, not only for timber growth, but also for watershed and esthetic reasons.

THE CURRENT SITUATION

Well, now I will attempt to provide a superficial summary of nursery activity, state by state, as I perceive it. I'm sure I will leave some people out and will not say enough about a given operation to satisfy the nurseryman. If so, I apologize in advance.

IDAHO - Idaho produces about half of the trees grown in the interior; principally at the two Forest Service nurseries, Lucky Peak, at Boise, where our meeting will be next year, and at Coeur d'Alene. Coeur d'Alene has a major green-house expansion underway at present. Jim Kaylor operates a private nursery in north central Idaho in the Clearwater River Valley. Potlatch Corporation operates a cost-effective containerized seedling nursery at Lewiston. Recently, Bob firkins, at the White Arrow Ranch in Bliss, Idaho, near Twin Falls, has begun to grow containerized trees in geothermally-heated green-houses. The State nursery at Moscow continues to produce shelterbelt stock for the State. A greenhouse has recently been developed there in cooperation with industry. Frank Pitkin retired in May after many years of service at the University of Idaho and at the nursery.

NORTH DAKOTA - North Dakota tree production is centered at the State nursery at Towner (for conifers) and at the North Dakota Association of Soil Conservation District's nursery at Bismarck (for hardwoods). Both nurseries have small greenhouses; demand for containerized seedlings is limited.

MONTANA - Montana now has several nursery operations. The State nursery at Missoula has recently received funds for new construction, including tree and seed coolers and some green-house room. Willis Heron tells me the problems associated with surplus money are easier to take than the problems associated with far too little (which is his usual situation)! Lawyer's nursery at Plains is recently expanded and they have hired Bob Stone, who was formerly with South Dakota, and, before that, Idaho. Champion

has developed a new container facility, also at Plains, to supplement its Bonner, Montana, facility. The BIA is continuing to operate the greenhouse at Ronan under the able direction of Steve Hagland. Mountain Home Nursery near Deborgia, Montana, produces bare-root conifer seedlings.

NEVADA - Nevada, over the last few years has eliminated their bare-root operation at Reno, which was on University of Nevada land, and developed two container facilities - one is at Washoe Lake between Carson City and Reno; the other is solar-heated and located a little north of Las Vegas at a pretty place called Tule Springs. Nevada has a very interesting program called the "desert forestry program" which involves more utilization of attractive, less water-demanding native plants for landscaping and also culture of potentially valuable arid site plants like guayule and jojoba.

UTAH - Utah is struggling to bring the nursery site at Draper into full production. Progress has been slowed by several personnel changes. However, a high-quality, well-designed physical plant is finished and a greenhouse is soon to be constructed. Native Plants, Incorporated, of Salt Lake City offers custom grown containerized native shrubbery and tree seedlings. I've also heard interesting reports they are involved in growing latex-producing plants with an eye on exploiting the present latex rubber shortage.

SOUTH DAKOTA - The nursery at Watertown, now being operated by Blaine Martian, will soon have a large, new tree cooler facility. This will allow fall-lifted trees to be stored over winter so southern parts of the State can be better served. Also, this unit, which formerly produced only conifers, has recently started to produce hardwoods, with good success.

NEBRASKA - The Forest Service's Bessey Nursery at Halsey, Nebraska is continuing to produce excellent trees under the direction of Tim Capistrant. Tim has hopes of getting a new packing shed and cooler facility before too long. I understand the cooler he now has was recently declared an archeological site.

KANSAS - Kansas is continuing to produce quality large-sized container stock at Manhattan, under the capable direction of Bill Loucks.

COLORADO - Marv Strachan's diversified nursery operation at Fort Collins continued to prosper. Frank Rothe's Colorado Hydroponics containerized tree nursery at Lyons, Colorado, north of Boulder, is really a going concern. Frank has just finished a large, new seedling handling and office building. His son is now working

with him. Frank will be giving a presentation later in the program. Hopefully, he will give us some of the secrets of his success. Of course, you will see and learn about Mt. Sopris nursery while you are here. The BIA is operating a small container seedling nursery at Ignacio, Colorado. Kent Eggleston is cutting his teeth on that operation, and doing well from what I hear.

NEW MEXICO - Boyd Elliot is going to tell us later how wonderful it is to start up a new nursery, so I will not say any more about the Forest Service unit at Albuquerque. Preston Guthrie of the BIA in Albuquerque oversees several greenhouse nursery operations. Four of these are in New Mexico, one at Albuquerque, one at Mescalero, one at Zuni, and one at Jicarilla. The other is the unit in Colorado at Ignacio. Preston will report BIA activities to us later in the program. The state operates an agricultural experiment station at Mora, New Mexico. Some forest planting stock is being reared there by Jose Montano and Mike Davault for state planting and sales to private land-owners as well as for research purposes.

ARIZONA - The BIA has been growing trees in Arizona at Fort Apache at White River, Arizona, for some time. Morris Williams is the nurseryman there.

WYOMING - There are no real tree nurseries in Wyoming. The SCS does have a plant materials center at Laramie which produces plants for research.

#### SUMMARY

In summary, the nursery situation in the interior west is vital and growing. Container technology developed in the Pacific northwest and northern great plains is spreading and being applied, with great success, in the Great Plains, in high elevations forests, and on arid sites, for forest planting, shelterbelt establishment, and disturbed land vegetation. The container technology is being constantly amended to meet local needs and growing conditions. My greatest concern about the application of containerized tree seedlings in this area is that of economic prudence. In some cases, it is obvious that containerized trees are prerequisites to success. In other areas, this is much less apparent. We need to constantly be collecting data that equitably compares bare-root and container performance so we can make good, factually-based, decisions about which to use.

Probably, over the next few years, nursery-men will feel the results of two major impacts to the resources of the interior west area. The first will be increasing shortfall in soft-

LITERATURE CITED

wood timber production nationally. This should result in increasing pressures on Rocky Mountain forests for softwood production. Demand for more conifer tree nursery production in the Rockies should result from (1) increased harvesting rates and, (2) shortened rotation times. Secondly, it is apparent a great deal of the interior west will soon be disturbed for energy production. Disturbed land reclamation may draw nurserymen into large scale production of native shrubs to satisfy reclamation needs.

These impacts, in addition to the usual production load on interior nurseries, should certainly make life interesting for tree nurserymen in this area over the next decade.

USDA Forest Service, 1975. A Directory of Forest Tree Nurseries in the United States. 33 p.

Griffith, P.W. 1976. Introduction of the Problems. In Proc. of the Symposium Shelterbelts on the Great Plains, R.W. Tinus ed., April 20-22, 1976, Denver, Colo. pp 3-7.

Davis, R.M. 1976. Great Plains Windbreak History: An Overview. In Proc. of the Symposium Shelterbelts on the Great Plains, R.W. Tinus ed., April 20-22, 1976, Denver, Colo. pp 8-11.