

Comments

Tree Planters' Notes

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Cover: Sunset at Skyway Point, Highway 65, Grand Mesa-Uncompaghe-Gunnison National Forests, Colorado (Forest Service photograph by R.E. Grossman, retired, Klamath Falls, Oregon).

Certified Seed and Artificial Forest Regeneration


Little use has been made of the schemes for certifying the genetic identity of forest reproductive material over the many decades since the schemes were first made available. Now, however, changing patterns in the forest seed market and public opinion might well change this situation and certification thus become more the rule than the exception. Nursery and tree improvement workers as well as land managers need to take a second look at the need for seed and seedling certification to prepare for a changing future.

Artificial forest regeneration has been practice in the United States for most of the 20th century. Foresters began planting trees during the first decade of this century. As the science of genetics was rediscovered and developed in the 1930's and 40's, foresters too became aware of the importance of genetics in the success of their work. As some plantings of seedlings grown from improper source materials failed, it became clear that only trees with adapted genotypes should be planted.

Systems were established in agriculture to certify the adaptability of the many new varieties that were coming on the market. Farmers were besieged with many choices of new varieties and the crop improvement agencies were established by state governments, mostly in the 1950's, to assist farmers. The crop improvement agencies used agricultural experiment station tests and other scientific tests to determine which varieties should be certified as good choices for farmers in their respective state. Now, farmers only need to look for the blue tag to assure themselves that they are planting improved species and varieties that are appropriate for their area and conditions.

These systems made sense to foresters also, and standards for the production of certified tree seed were adopted. Three classes of seed came to be recognized: source identified, phenotypically superior, and genetically proven superior. The systems were eventually extended to seedlings because it is the seedlings that are usually planted in the forest, not the seeds. Unfortunately, by in large, these carefully written schemes gathered dust and were not widely applied. It is my opinion that this happened because the producers of the seed were often also the users of the seed and because the number of buyers and sellers was small. Everybody knew everybody and, although some abuses occurred, the opportunity for a fast deal was limited. There was no clearly defined consumer group in need of protection. One major exception was the export of seed from the Pacific Northwest to Western Europe. In this market the buyers of the seed required assurance that they were getting what they paid for and many thousands of pounds of certified-to-source seed from the Pacific Northwest have been exported to the United Kingdom, France, Germany, and other European countries.

As we enter the second century of scientific forest management in the United States, some new developments are signaling a possible change in certification practices for forest reproductive materials. First, there is a dramatic increase in the amount of forest seed being traded. The 1979 USDA Forest Service booklet "Seed and Planting Stock Dealers" listed 30 sellers and 168 species for sale. The soon-to-be-released Forest Service publication,



"Commercial Suppliers of Tree and Shrub Seed in the United States," lists 58 sellers of seed and over 1800 species-a dramatic increase. In June 1995, I was invited to attend an organizing meeting of the Tree, Shrub, and Native Species Group of the American Seed Trade Association. This group was being organized at the request of some of the established and conscientious dealers who believe that the market has become too chaotic. As they try to offer source-identified materials to buyers, they report being undercut by new dealers who are not paying attention to source and quality as would be appropriate for good conservation. These dealers believe that a system to assure quality and to educate buyers and sellers is strongly needed for both seeds and seedlings.

Second, there is a much wider interest from the general public in what is practiced on forest lands. There are well-organized "publics" that now believe that they have a right and an obligation to speak out on the management of public and private lands. These publics often have an effective voice in the debates on forest land management. Therefore, it would behoove land managers to always document their work with good technical records. In some circles, the very idea of planting wild plants (as opposed to allowing "natural" regeneration) is viewed as harmful because it is not a "natural" process. The documentation of the process of seed collection, conditioning, and seedling production by a third party through seed certification is a powerful way to document that the practice of artificial regeneration is not harmful.

Quality assurance standards are now being applied in the production of many items in our modern world. When the initials ISO appear on a product, it means that the item was produced following quality assurance protocols outlined by the International Standards Organization. Use of a widely recognized protocol such as seed certification would help the forestry community gain credibility and would also help to educate the public, new nursery personnel, and new seed dealers of the importance of proper seed sources and good seed quality. A certification tag on a bundle of seedlings should cost as little as 50 to 75 cents. Therefore, the operational cost of certification is small but can pay big dividends in protecting the resource and demonstrating that environmentally sound forest regeneration is being practiced. Seed and seedling certification is a procedure that needs to be adopted by all who buy and sell forest reproductive materials. It should become an integral part of artificial regeneration in the upcoming second century of artificial reforestation.

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