

# **Current Issues and the Future of Seed Certification of Trees, Shrubs and Native Plants**

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Abstract-The demand for seed certification by state Crop Improvement Associations of forest tree seed, mainly conifers, has decreased over the past several years because the number of export shipments of these species has declined. There continues to be a small but steady number of tree seed lots certified in the northwestern United States under the Organization of Economic Cooperation and Development (OECD) scheme for export to Europe. The demand for seed of tree species other than conifers, shrub and native species by federal and state agencies, conservation groups and the public for a wide range of land management applications is growing. In order to meet market demand, there are now more commercial seed companies and private seed collectors selling these species than ever before. Certification of these species will insure that specific standards are met and this will increase the likelihood of quality seed being offered for sale. Forest tree nurseries need to be aware of and prepared to participate in the seed certification process as warranted.

## **INTRODUCTION**

Seed certification is the process of verifying that seed has been collected or produced according to a known set of standards. Seed certification and state Crop Improvement Associations throughout the country have played a significant role in agriculture for the past forty to fifty years. Certification of tree seed was also important because it enabled the forest industry to export seed around the world. The importance of seed certification to agriculture and forestry has changed. Agricultural seed is now produced by companies that have strict quality control programs and the certifying agencies are not used to the extent that they were in the past and the forest industry now rarely certifies tree seed because little of it is exported. Seed certification and the certifying agencies may however provide valuable assistance to seed companies and land managers that are working with hardwood tree species, shrubs and native plants.

## **SEED CERTIFICATION CLASSES AND STANDARDS**

Most states have an association or agency that is responsible for certifying seed. The authority to certify seed is addressed in each states seed law. Most agencies have classes for tree seed certification. The classes developed for tree seed are based on the classes designated for agricultural crops. The classes and standards necessary for certification are determined by members of the certifying agency, seed producers, extension agents, university research personnel, seed buyers and others, from both the public and private sector, that are knowledgeable and experienced in collecting, processing and producing seed and using seed to produce plants. Standards focus on insuring the production of a quality product. When standards are developed, the agency and the people assisting them need to consider why the species is in demand, what it will be used for, how much will be produced, and the environment in which the demand for the species has developed. What events led to the

demand for this species?

In many states, this is the format used to determine which tree species are eligible for certification, the production standards and classes and which processing plants are approved to clean seed. For tree species, the standards of each class of certification may vary slightly from state to state but they are basically the same. Some states have standards and classes for species of plants that other states do not. There are minimum standards for each class. Tree seed can be classified as either source identified, selected (phenotypically superior) or improved (genetically superior).

The standards for source identified certification require that the seed collector keep accurate records of what, where and when the seed was collected. In some states the collectors, either individuals or agencies, may need to be registered with the certifying agency. The agency may or may not certify the collection without an inspection. If the seed is certified on the basis of documentation alone, the agency will reserve the right to make a future inspection. Seeds collected from documented sources can be registered with the certifying agency and can then be used to produce seed in seed production areas. Registered seed can also be bought if there is a supply and then used to produce seed in a production area. Seed produced in a production area can be certified as source identified if accurate records are available to document the origin of the seed used to produce the plants. The seed production area should also be registered with the certifying agency. Species approval for certification is not generally required for source identified certification. These specifications should be addressed in each agencies general standards. Some state certification agencies are certifying source identified seed of many species, particularly in the western United States. There is little demand for source identified certification in the eastern and southern states at this time. The standards for selected and improved classes for some species are outlined in each certifying agencies scheme. The standards explain the minimum requirements that need to be followed to register, produce, inspect and label lots of tree seed under the scheme. The minimum requirements for seed orchards or plantations and seed processing plants are outlined as well.

### **HISTORY OF TREE SEED CERTIFICATION**

The certification of tree seed by state Crop Improvement Associations has been available for the past thirty to forty years. Certification of tree seed has been directly related to exportation. During the 1960's, seed orchards, particularly in the southern states, began to produce genetically improved seed of conifer species. The demand for seed of species from the western states also developed at this time and tree seed producers in the United States began to use certification to help expedite the exportation of the seed. Seed from the western states was generally source identified and the seed from the seed orchards in the eastern states was certified as genetically improved.

In 1960, the Organization for Economic Cooperation and Development (OECD) was established. This organization has a set of standards that member countries recognize and the establishment of this internationally accepted scheme helped to facilitate the movement of seed between member countries. Member countries included the US, Canada and many European nations. In the Unites States. the authority to certify tree seed lots under the scheme

was delegated to the state certification agencies. Seed companies and state organizations were approved by the certifying agencies to produce or process certified seed and the exportation of conifer seed from these seed orchards drove certification for many years.

The demand from Europe for North American seed sources of conifer seed has diminished and not much of this seed is certified under the OECD scheme at the present time. In 1995, 4000 lbs. were shipped to Europe under the scheme, almost exclusively from the state of Washington. This made up 25% of the overall forest reproductive material shipped under the OECD scheme. The seed exported were almost exclusively certified as source identified. The demand from South America and Asia has also diminished and not many state certification agencies are certifying any conifer seed under their own standards either. As a result, private seed companies and state forestry organizations don't really use the certification programs offered by the certification agencies in each state because there isn't really any demand for it.

### **NEW DEMAND**

The area where seed certification is likely to have a significant role in the forest tree nursery industry in the future, is in the production of hardwoods, shrubs and native plants. "Native plants" include grasses, wildflowers, forbs and wetland species endemic to a particular area. The demand for plants and seed of these species has increased dramatically in the past few years. The demand is much greater in the western US at the present time but it is developing quickly in the eastern states. There are more potential users of these species in the eastern states because there are more actual landowners in the east as opposed to the west where public agencies manage a considerable amount of land. Seed certification schemes can be used to help insure that high quality seed and planting stock is produced and made available to the people and groups that need the plants.

The main reason the demand for these species has increased is that federal and state agencies and many environmental and conservation groups and land managers are attempting to use native plants for a wide range of uses and many have or are developing some type of policy to govern the use of both native and nonnative plants on their land. Land managers are working with many new plant species to meet both environmental and economic goals. In addition, the public is increasingly interested in how both public and private lands are being managed. There is a level of accountability present for the way land is managed that was not present in the past. Government organizations and private companies are devoting more time and resources to working with the public by providing information for educational purposes and including the public in the decision making process. Maintaining biodiversity, protecting habitats and plant populations and managing land for specific goals are issues the general public is much more knowledgeable about now than in the past. This is another reason that land managers of both public and private land will need to consider using a wide range of plant species in order to address the array of concerns over how land is managed or used. Some public agency and commercial tree nurseries that used to grow a limited number of tree species are now growing a wide variety of plants, everything from traditional conifer tree species to grasses and wildflowers. Nurseries and land management organizations have to find sources of seed to produce these plants. Individual citizens are also looking for sources of seed of hardwoods, shrubs and native plant species for many different reasons.

To meet the demand for seed of these species, there has been a substantial increase in the number of seed companies selling hardwood, shrub and native plant seed. The seed companies are working with public agencies, conservation groups and individual citizens. To offer the quality of material required by the groups or people that want to purchase the seed, seed companies must keep accurate records that explain in detail the history of the seed being offered for sale. Seed certification agencies have established schemes of classes and standards that can provide seed companies with guidelines for product development and information management.

In the western United States, source identified seed certification is very common. The importance of seed zones and guidelines for seed movement of many plant species are well established. While we may not know how far seed of some hardwoods, shrubs and native plant species can be moved before they are unable to survive or grow in a vigorous manner, experience dictates that using local seed sources decreases the chance of a crop or planting failure due to local geographic and climatic conditions. In the past, individuals, public agencies and private organizations have all bought seed from commercial seed companies that was not source identified or the source was in question and not had success in establishing plants from the seed to produce the desired outcomes. Using certified source identified seed may help to eliminate some of these failures. This is the reason many seed buyers of these species in the west require seed companies to have their seed certified as source identified. The demand for these types of plants in the eastern US is growing and buyers in the east are likely to follow the lead of buyers in the west.

Some seed companies have their seed certified in order to let prospective buyers know that the seed was collected or produced according to a set of minimum standards. There is a level of quality that is associated with this type of product and as the marketplace becomes more competitive, seed companies may find that offering certifying seed will increase sales. The American Seed Trade Association has organized a Tree, Shrub and Native Plant group at the request of some of the seed companies to look at various issues, including the role of certification.

## **CONCLUSION**

Certification of tree, shrub and native plant species will not ever be in demand unless the end user of the material understands what certification is and is able to perceive or see a real benefit from using certified seed. In states where this level of understanding is present, certification is common. Seed companies and the nurseries, both public agency nurseries and industry and small retail nurseries, are the people with the most direct contact with the end users of the seed or planting stock. As part of this industry, we need to be prepared to educate people about seed certification and how understanding and using it can be beneficial. Seed certification is not regulation. It is a procedure that can be used to insure that a quality product is placed on the market.

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