

Procedures for International Shipment of Seeds and Cuttings of Forest Trees

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The National Tree Seed Laboratory receives many requests for the procedures to make international shipments of tree seeds and cuttings. The basic procedures for preparing seeds and cuttings and obtaining the necessary certificates and permits are outlined in this article to serve as a guide for anyone who wishes to make an international shipment of a small amount of seeds or cuttings.

The Seed Bank at the National Tree Seed Laboratory (NTSL) receives many requests every year for information about the best way to ship seeds or cuttings of forest trees to another country. The following procedures should meet the needs of most parties interested in making international shipment of seeds or cuttings.

Exporting Procedures

Permits and Certificates

Obtaining the necessary permits and certificates is often the most perplexing step in the process. However, once the appropriate contacts are made the process is relatively straightforward. The process should never be taken lightly though, because failure to obtain the proper certificates and permits can easily lead to destruction of the seeds or cuttings at the port of entry in the receiving country.

The sender must obtain a phytosanitary certificate, which declares that the plant material is free from insects and disease organisms and conforms to the current phytosanitary regulations of the importing country. Shipments that cannot pass inspection are not given certificates and cannot be shipped to another country. Information on obtaining a certificate and other requirements of the importing country should be obtained from an office of Plant Protection and Quarantine (PPQ), Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture, well in advance of the intended shipment time. State departments of agriculture often can supply a phytosanitary certificate. Names and addresses of APHIS inspectors can be obtained by contacting:

Regulatory Services Staff
PPQ, APHIS, USDA Export
Certification Room 644
Federal Building 6505 Belcrest
Road Hyattsville, MD 20782
(301) 436-8537

The recipients must obtain any necessary permits from their country's government. The most common of these is the import permit. Permits should be forwarded to the prospective exporter for review by PPQ officers. This must be done before a phytosanitary certificate can be issued. The official documents issued by the plant protection

service in the receiving country must be supplied because only the official documents will be accepted by PPQ. Information supplied by the importer alone cannot be accepted.

Preparing Seeds. Seeds should be cleaned thoroughly to remove all trash. This step will make inspection easier. Trash might also be a place for pests to hide and result in the sample's failing to pass inspection.

The seeds should be packaged only in inert material. Do not use any plant residues such as moss or sawdust. At the NTSL we have found that heat-sealing the seed in 4-mil plastic bags is very convenient. Lot identification is also sealed inside the bag. The individual seed packets are placed in a cardboard box with Styrofoam pellets. Once the package is sealed, the necessary permits and certificates are placed in an envelope marked "Packing List Enclosed" that is then affixed to the outside of the package. Attaching the permits to the outside of the container is necessary for easy inspection. Inspections must be easy to conduct or else the shipment may be rejected by a busy inspector.

Preparing Cuttings. Only fresh, healthy, clean cuttings should be shipped. Sometimes they will be dipped in a fungicide/ insecticide mixture according to instructions obtained from the recipient and coordinated with APHIS. Once dipped, the cut-

tings are air-dried to remove excess surface moisture and then heat-sealed in plastic bags along with their identification tags. Putting peat moss or other organic media in the plastic bags is not acceptable for phytosanitary reasons. It was also found that using any moisture-holding media in the bag encouraged mold growth on the cuttings. Shipment is in insulated cardboard cartons.

These cartons are available commercially or can be constructed by gluing sheets of rigid insulation on the inside of a cardboard carton. A gallon plastic bottle filled with water and frozen solid can be placed in the carton to keep the cuttings cool. The bottle cap should be sealed tightly to prevent leakage and damage to the carton. After sealing the carton, attach all necessary certificates and permits.

Shipping Methods. First Class Air Mail is the fastest and simplest method for shipping seed. A fast method is necessary to ensure that the seed will arrive at its destination in good healthy condition. Registering the package and requesting a return receipt can be useful in tracking it in the mails and should be requested if there is any concern about potential loss of the package in transit. Four pounds is the maximum weight that can be sent by First Class Air Mail. Shipments over 4 pounds can be divided into more than one

package or sent Air Freight. Air Freight Collect may encourage a speedy delivery because shipping fees are only collected after delivery.

Importing Procedures

Packaging seeds and cuttings for shipment into the United States is done in the same way as for material being exported. An import permit is required and can be obtained by contacting:

Regulatory Services Staff
PPQ, APHIS, USDA
Permit Unit
Room 637 Federal Building
6505 Belcrest Road
Hyattsville, MD 20782
(301) 436-5232

Contact can also be made with a local PPQ office to obtain the import permit.

Importing requirements are complex and cannot be adequately described in this paper. The importer of plant material is, therefore, advised to make contact with PPQ well before the anticipated shipping date of any material to work out the necessary details. This step will give the greatest possibility of a successful entry of the material.

Occasionally, fumigation of the seed is necessary when it arrives in the United States. As a safeguard against injury from the fumigant, advise the sender of your seed to dry the seed to a moisture content of 6 to 8 percent. Fumigants are less likely to injure seed at low moisture

contents (1). The low moisture contents cannot be tolerated by species such as *Quercus* or *Juglans*. As an alternative to methyl bromide, a hot water bath has been used (2) for *Quercus*. The acorns are immersed in water at a temperature of 49 °C for 40 minutes. Arrangements for this alternative treatment should also be made in advance of importation.

Literature Cited

1. Jones, L.; Havel, K. Effect of methyl bromide on several species of conifer seed. *Journal of Forestry* 66(11):854-860; 1968.
2. Schopmeyer, C.S., ed. *Seeds of woody plants in the United States*. Ag. Handb. 450. Washington, DC: U.S. Department of Agriculture, Forest Service; 1974. 883 p.