

# **FOREST TREE SEED CERTIFICATION STANDARDS (1988)**

## **I. Application and Amplification of General Certification Standards**

- A. The General Seed Certification Standards, as adopted by the association are basic and together with the following specific standards constitute the standards for certification of forest tree seed.
- B. Section V of the General Standards is amplified as follows to apply specifically to forest tree seed.
  - 1. Certified Tree Seed (Blue Tag)

Certified seed shall be seed from trees of proven varietal superiority, as defined by the following standards, produced so as to assure varietal identity. (Seeds from inter-specific hybrids of forest trees may be included.) In addition the following subclass may be acceptable for certification.

    - a. Selected Tree Seed (Green Tag)

Selected tree seed shall be seed from untested parentage of rigidly selected trees or stands that have promise but no proof of genetic superiority.
    - b. Source-Identified Seed (Yellow Tag)

Source – Identified seed may be from natural stands including seed production areas with known geographic origin plantations of known provenance. The source is to be identified to county or counties of collection and must meet the standards of Section V.c.
  - 2. For all classes of forest tree seed, the exact geographic source of the parent trees and the stand history must be known. Location of the source of certified and selected tree seed shall be designated by section or comparable land survey unit. Location of source – identified tree seed shall be defined by means of administrative and geographic boundaries and, where applicable, by altitudinal and other appropriate boundaries judged to be significant by the certifying agency.

## **II. Land Requirements**

Elevation to the nearest 250 feet of the original geographic source on mountain collection only and site index (50 years) shall be specified on application and the tag.

### **III. Field Inspections**

- A. An initial field inspection must be made at least 21 months prior to seed collection. A second inspection must be made within 90 days prior to cone collection. During the second inspection the inspector will make an estimated count of cone production which will become confidential information to the GCIA. Not required for source – identified seed (yellow tag). Source identification accepted on notarized statement of collector. However, the inspections may be made without prior notice by GCIA Inspectors.
- B. Inspections will be required only in years in which certified seed production is planned after the initial inspections, provided that subsequent inspections shall be not more than 5 years apart. Not required for source – identified seed (yellow tag). Source – identification accepted on notarized statement of collector. However, inspections may be made without prior notice by GCIA Inspectors.
- C. Inspections may be made at any time during cone collection, seed extraction and cleaning without prior notice.

### **IV. Field Standards**

#### A. General

##### 1. Definitions

The term cone shall include the seed contained therein. The term scion shall include all materials for vegetative propagation of a clone.

##### 2. Unit of Certification.

An area or a portion of an area may be certified. The portions of an area not meeting certification requirements shall be delineated with a painted boundary mark (color contrasting with other boundaries) and cones produced on the disqualified area may not be collected. A clear and distinct boundary line will be marked with paint between an area and its isolation strip. The outer boundary of the isolation strips shall be marked with a contrasting color or symbol. None required for source – identified seed. (Yellow tag)

##### 3. Isolation Requirements

A minimum isolation distance of 400 feet shall be provided for all species of pine for certified tree seed (blue tag) and selected tree seed (green tag). None required for source – identified seed (yellow tag).

4. Nursery inspections and control for the production for certified seedling
  - A. Procedures for Sowing Seed
    - a. Only certified seed will be used.
    - b. A map shall be made that shows the exact location in the nursery where each certified seed lot is sown, the area sown to each lot and the sowing rate shall be recorded.
  - B. Procedures for Lifting, Grading and Packaging of Certified Seedlings
    - a. An inventory of the number of seedlings produced from each lot of certified seed sown shall be made prior to lifting and reported in writing to GCIA.
    - b. Only seedlings from beds identified according to IV. A. 4. A. b. shall be lifted, graded and tagged as Certified Seedlings. Systematic procedures are to be adopted that will insure that no mixing of seedling lots occurs in the packing shed.
    - c. Not more than 2,000 trees may be packed in a single bundle. The approximate number of seedlings per bundle and the number of bundles tagged shall be recorded. Total number of seedlings shipped shall not exceed five percent of the prelifting inventory.
  - C. Specific Requirements
    1. Seed Producing Areas
      - a. Stand Selection

The stand must initially contain a minimum of one-hundred (100) trees per acre of the desired species that are at least 10.0 inches D. B. H., or a minimum basal area of 50 sq. feet. The stand shall be even aged and shall not have been previously thinned except where a record is available to show that thinning was from below.

b. Stand Treatment

1. Roguing

All rust infected (*Cronartium fusiforme* and *c. cerebrum*) trees, excepting cone rusts, are to be cut and removed from the area. All trees of below average vigor (growth rate) and form must be removed. All trees having above average branch size must be cut. All trees having spiral stems or forks must be removed.

2. Stand Composition

Only trees of average or above vigor and form, and average or below in branch size, and free from pests shall remain.

3. Isolation Strip

The area shall be free of contaminating pollen. An isolation strip shall be maintained. A strip 400 feet wide adjacent to the production area shall be free of all species of trees which will normally cross pollinate naturally with the species of the production area, except that this strip may contain trees of the same species providing that it meets the standards of roguing and stand composition of the production area.

2. Seed Orchards

a. Stand Composition

The stand will be composed of at least 15 clones of trees. The identity of each tree shall be known and records of the ortet (or parentage in the case of seedling stock) shall be unavailable for inspection. The arrangement shall be such as to maximize cross-pollination between clones.

b. Progeny Tests

All clones in a seed orchard must be progeny tested and approved by GCIA before Certified Tree Seed (Blue Tag) can be produced. The records of each progeny test shall be available to the Georgia Crop Improvement Association and at their discretion they may refer these records to proper authorities for evaluation. The field

plots of the progeny tests must be maintained until such time as the requirements of the Georgia Crop Improvement Association are satisfied.

c. Certification

Prior to completion of progeny test and qualification for Certified Tree Seed, seed which are produced in seed orchards may be sold as Selected Tree Seed (Green Tag) provided that all ortets or individual trees qualify as “plus trees”.

d. Isolation

A minimum of 400 feet surrounding the orchard shall be free of all trees producing contaminating pollen.

3. Seedling Seed Orchards

a. Stand Composition

The stand shall be composed of the progeny of at least 15 trees qualifying as “plus trees”. The stand shall have been rogued at least to the level required for seed producing areas. (Sec. B. 1. b.)

b. Progeny Tests

Seedling seed orchards must be progeny tested and approved by GCIA before certified tree seed (blue tag) can be produced. Seedling seed orchards may be progeny tested by any of the methods acceptable for seed producing areas or clonal seed orchards. The records of each progeny test shall be available to the Georgia Crop Improvement Association and at their discretion they may refer these records to proper authorities for evaluation.

c. Certification

Prior to completion of progeny tests and qualifications for certified seed, seed which are produced in seedling seed orchards may be sold as Selected Tree Seed (Green Tag) provided that no single progeny line shall constitute more than 30% of the stand.

d. Isolation

A minimum of 400 feet surrounding the orchard shall be free of all trees producing contaminating pollen.

4. Elite Trees (Including Varieties)

a. Individual Characteristics

A tree must possess certain characteristics such as superior growth, gum yield, specific gravity, etc. which can be described and must be capable of being differentiated from other trees of the same species on the same site.

b. Progeny Tests

All trees must be progeny tested before certification. The progeny tests and records shall be handled as to seed orchard clones.

c. Certification

Open pollinated seed may be labeled Selected Tree Seed (Green Tag) if a 400-foot isolation strip is rogued of all diseased and defective trees (seed producing area standards). Controlled pollinated seeds may be labeled Certified Tree Seed (Blue Tag) provided the cross presented for certification has been progeny tested and approved by GCIA.

d. Identification

Each tree shall be marked with a band of paint not less than 6 in. wide containing identifying numbers and/or letters. The records for each tree shall contain a complete description of the tree and a map showing its exact location.

V. **Seed Standards**

A. Germination Tests

Tests will be acceptable only from laboratories approved by GCIA. Tests must have been completed within 9 months prior to shipment of seed and the seed must have been stored in air-tight moisture proof containers at moisture content less than 10% and temperature below 36 degrees F. from the time of sampling until shipment

B. Lot Size

No lot of tree seeds may contain more than 1,000 pounds.

C. Specific Requirements \*

<u>Factor</u>	<u>Standard</u>
Pure Seed (Min.)	98%
Inert Matter (Max.)	2%
Other Species or Varieties (Max.)	0%
Germination (Min. Apparent)	Tested Germ. %
Stratification	Specify on tag
Percent full seed	Specify on tag
Speed of Germination (as % of total germination)	
Loblolly Pine (Pinus taeda L.)	95% / 21 days
Longleaf Pine (P. palustris Mill.)	90% / 21 days
Shortleaf Pine (P. enchinata Mill.)	95% / 21 days
Slash Pine (P. elliottii Engel.)	95% / 21 days
White Pine (P. strobus L.)	95% / 28 days
Sand Pine (Pinus clausa)	90% / 21 days
Virginia Pine (P. virginiana Mill.)	90% / 21 days

\* Exceptions may be made contingent on inherent characteristics of species involved.

### **INSTRUCTIONS & PROCEDURES**

1. Seed house or Bin Inspection of Cone or Seed:

Seed and/or cones should be so handled as to prevent mixture and maintain identity. Each lot of cones or seed shall be identified at all times throughout processing.

2. Cone Drying:

Lots of cones shall be isolated in drying by seed – proof barriers to prevent mixing of seed as the cones open. All drying racks, areas, etc. shall be thoroughly inspected and cleaned prior to use. All cone and seed handling machinery shall be inspected and cleaned prior to use. The amount of clean seed obtained from each orchard, which requested inspection, will be reported to GCIA by the seed plant. This information shall remain confidential to the GCIA.

3. Off type trees must be marked at the time of inspection and felled while the inspector is in the area. If these trees are felled at a later date, a reinspection will be required.

4. Crook will be acceptable in trees only if it is mechanically accountable. Where a majority of trees in a stand have a similar crook at approximately the same height, this can be assumed to be mechanical.
5. Sweep will be acceptable if it occurs in one place only and deviates from a line from the center of a 4 inch merchantable top to the outside of the butt; NOT MORE THAN ONE INCH FROM EACH TEN FEET IN TOTAL HEIGHT.
6. In order to provide pollen it is desirable to leave the maximum number of acceptable trees on the isolation strip.
7. Information required on a tag when tagging certified seedlings:
 

a. Species	Printed by GCIA
b. Province: Mountain, Piedmont, Coastal Plain or mixed M, CP, or P	Printed by GCIA
c. Grower – Name and Address	Printed by GCIA
d. Nursery Identification	Printed by GCIA
e. Percent fusiform rust: Max. of 5% visually detectable infection	Printed by GCIA
f. Lifting Date	(to be filled in by producer)
g. Number of seedlings in bundle	(to be filled in by producer)
8. For source – identified seed (yellow tag) the bushels of cones will be reported immediately following collection on the notarized statement and the amount of clean seed will be reported with request for tags. This information to be held confidential by GCIA.

Inspections

1. Final dates for filing
 

October 15: Forest Trees initial inspection at least 21 months prior to seed collection

June 1: Forest Trees. Annual Inspection
2. Annual Inspection – Inspection for Forest Tree Seed is required only in years in which seed collections are to be made, provided that the last inspection prior to this was within 5 years.



3. Official Inspection

Forest Tree Seed will be tested by: National Tree Seed Laboratory  
Route 1, Box 182-B  
Dry Branch, Georgia 31020

4. Inspection Fees – See application for membership and crop inspection

Source identified (Yellow Tag) seed \$0.10 per 100 pounds of seed

Note: Where individual trees are inspected, the minimum fee shall be for one acre. The acreage may be figured at the rate of one acre per tree or the gross acreage occupied by all trees inspected. The lower figure will be used to determine the total acreage fee.