

General Seed Certification Standards

Note: These standards are applicable to all crops eligible for certification and, with the standards for the individual crops, shall constitute the standards of the Georgia Crop Improvement Association, Inc.

- I. Type of Certifying Organization: Seed Certification is the responsibility of the College of Agriculture, University of Georgia, with the Georgia Crop Improvement Association, Inc. designated as its agent to carry out the program. (See Senate Bill #583, July 1997)
- II. Purpose of Certification: The purpose shall be to make available to the public, through certification, high quality seeds of superior crop plant varieties so grown and distributed as to promote purity and identity. The word “seed” as used in these standards shall be understood to include all propagating materials.
- III. Eligibility Requirement for Certification of Crop Varieties in Georgia
 - A. Only those varieties, hybrids and species that are recommended by:
 1. The Agronomy Division
 2. The Horticulture Division
 3. The Georgia Chapter of the American Society of Foresters
 4. Those varieties protected under the Plant Variety Protection Act using Title V as the certification option and/or
 5. Recommended by the appropriate GCIA Commodity Committee, the GCIA Certification Committee and approved by the GCIA Board of Directors shall be eligible for certification.
 - B. The following must be made available by the originator, developer, owner or Agent when eligibility for certification is requested.
 1. The name of the variety. This name must be an established name if the variety has previously been marketed.
 2. A statement concerning the variety’s origin and the breeding procedure used in its development.

3. A detailed description of the morphological, physiological and other characteristics of the plants and seed that distinguish it from other varieties.
4. Evidence of performance of the variety, such as comparative yield data, insect and disease resistance or other factors supporting the identity of the variety.
5. A statement delineating the geographic area or areas of adaptation of the variety.
6. A statement on the plans and procedures for the maintenance of the stock seed classes including the number of generations through which the variety may be multiplied.
7. A description of the manner in which the variety is constituted when a particular cycle of reproduction or multiplication is specified.
8. Any additional restrictions on the variety specified by the breeder, with respect to geographic area of seed production, age of stand or other factors affecting genetic purity.
9. A sample of seed representative of the variety as marketed. The sample size shall be that required for a submitted sample in the current issue of the rule of "Testing Seeds for the Association of Official Seed Analysts."

IV. Restriction on Number of Varieties

Only one variety of the same crop may be grown for seed production on a farm except on prior approval of the certifying agency.

V. Classes and Sources of Certified Seed

A. Four Classes of seed shall be recognized in seed certification, namely, breeder, foundation, registered and certified. These classes of seed shall meet the standards of the Georgia Crop Improvement Association for the respective crops. These classes are defined as follows:

1. Breeder Seed – is seed or vegetatively propagating material produced under the direct supervision of the originating, or in certain cases the sponsoring plant breeder or institution or designee, which provides the source for the initial increase of foundation seed. Breeder seed is not available for commercial distribution. (See breeder tag).

2. Foundation Seed – shall be the progeny of breeder’s seed (or in special cases the progeny of foundation seed) and with the agreement of the plant breeder or the originating institution so handled as to most nearly maintain specific purity and identity as designated by the official seed certifying agency.

Foundation seed may be produced only by or under the direct supervision of an approved agronomist or institution:

- a. on its headquarters farm,
- b. on a farm organized as a branch of such headquarters farm with a qualified plant breeder in charge of such production or
- c. on a farm operating under contractual agreement with and under the direct supervision of the originating or sponsoring plant breeder or institution for the production of foundation seed.

Foundation seed shall be tagged with white tags issued by the official seed certifying agency.

Foundation seed shall be the source of registered seed, or in special cases certified seed. (See Crop Standards)

The Association may inspect new proposed releases at the request of the breeder, which will be certified through the foundation class.

3. Registered Seed – shall be the progeny of breeder or foundation seed. Registered seed shall be so handled as to maintain satisfactory purity and identity as designated by the official seed certifying agency. Registered seed shall be produced under the general supervision of an approved agronomist and under the regulations of the official seed certifying agency. Registered seed shall be tagged with purple tags issued by the official seed certifying agency.
4. Certified Seed – is the progeny of breeder, foundation, registered (or in special cases certified) seed, that is so produced and handled as to promote satisfactory purity and identity as approved and certified by the official seed certifying agency. Note: At the discretion of the certifying agency, a grower may be permitted to continue production of foundation or registered seed

from lots of seed that were fully inspected but rejected because of factors which did not involve purity and identity of germplasm.

5. Certified Tree Seed

- A. Certified Tree Seed (Blue Tag)
- B. Selected Tree Seed (Green Tag)
- C. Source – Identified Tree Seed (Yellow Tag)

B. Limitations of Generations

1. Except as provided elsewhere in this section, the number of Generations through which a variety may be multiplied shall be limited to that specified by the originating breeder or owner of a variety, but shall not exceed two generations beyond foundation seed.
2. The following exceptions to the above limitations of generations are permitted.
 - a. Unlimited re-certification of the certified class may be permitted for older crop varieties where foundation seed is not being maintained.
 - b. The production of an additional generation of the certified class may be permitted on a one-year basis when:
 1. An emergency is declared prior to the planting season by the governing body of the certifying agency stating that foundation and registered seed supplies are not adequate to plant the needed acreage of the variety.
 2. Permission of the originating breeder and/or owner of the variety is obtained (if applicable).
 3. The additional generation of certified seed produced to meet the emergency need is ineligible for recertification.

VI. Requirements for Certifying Agency for Training Seed Producers and Conditioners

- A. The certifying agency shall set up qualifications for seed producers and conditioners and is obligated to carry on such educational work as may be necessary to make them aware of the standards and procedures required to produce and market high quality seed. Note: Individuals responsible for procedures required in section XIV, Seed Conditioning, must attend a Seed Short Course at least once every two years if the plant is to remain on the approved list.
- B. Qualifications of acceptance of members should include: general adaptation of farm and equipment, ability of the grower, his integrity, his cooperation, and any other qualification essential to conduct a successful certified seed program.

VII. Qualifications for Inspectors

Training schools for GCIA Inspectors will be conducted as needed.

VIII. Establishing the Source of Seed

Seed growers must furnish evidence of the class and source of seed used to plant each crop being considered for certification. An official tag and invoice showing the amount of seed purchased is required.

IX. Growers Responsibility

The grower is solely responsible for maintaining the varietal purity and identity of the seed at all stages of the certification process. This includes planting, growing, harvesting, drying, storage, conditioning, bagging and labeling of the seed.

X. Contaminating Crops & Weeds

Every field for which certification is requested shall show evidence of good management and shall show that reasonable precaution has been taken to control contaminating crops and varieties. Objectionable weeds, the seeds of which are indistinguishable or inseparable with available cleaning equipment from seed of the particular crops being inspected must be controlled.

XI. Seed-Borne Diseases

Every field for which certification is requested shall show evidence that reasonable precaution has been taken to control seedborne diseases. The field, at the time of inspection, shall not contain beyond established tolerance of injurious seedborne diseases, which are enumerated in the individual crop standards.

XII. Isolation – See specific crop Standard.

XIII. Inspections

Only those inspection made by authorized representatives of the Association will be accepted.

- A. Field Inspection – Annual inspections are required, except for fescue and Forest Trees. After the initial inspection of these commodities, they are only checked the years for which a seed crop will be harvested. The inspections are made after maturity of the crop, but before harvest. (See individual crop standards for the number of field inspections required for each crop.) Fields failing to meet minimum certification standards may be reinspected upon the applicant's request. Reinspection fees may apply. The certification process is limited to inspections that verify easily observable phenotypic characteristics of a variety as described by the originator of a variety and when applicable adhere to published seed quality standards.
- B. Harvest Inspections – Unannounced random inspections may be made during harvest to see that combines, wagons, trucks, dryers and storage areas are properly cleaned. In addition, precautions taken to maintain quality and varietal purity will be checked. The disposition of seed rejected in the field will be noted and recorded.
- C. Bin Inspections – One or more inspections of harvested seed lots from inspected fields may be made at any time, by representatives of GCIA to see that standards required under certification are being followed. Seed not properly protected from mixture or improperly identified will be rejected for certification.
- D. Official Laboratory Inspection – All samples representing lots of certified seed will be analyzed by or under the supervision of a registered seed technologist or AOSA Certified Analyst. Analysis and test of samples of certified seed and definitions of analytic terms shall be in accordance with the rules of the Association of Official Seed Analysts.

XIV. Seed Conditioning

All certified seed must be conditioned in an Approved Seed Plant. These plants have been inspected and their equipment and operation approved by the GCIA Board of Directors. A GCIA Inspector makes one or more unannounced inspections of each plant annually. The Seed Plant operator and/or an appointed representative(s) is responsible for: (1) Maintaining varietal purity and quality of seed, (2) cleaning storage and equipment when changing varieties, (3) keeping certain records, (4) keeping seed identified at all times, (5) pulling official samples, (6) ordering certification tags, (7) attaching certification tags to the bags, (8) preventing seed from being moved until official laboratory reports have been received clearing seed for certification, (9) removing tags and for the GCIA emblem and the word Certified to be canceled on bags of rejected lots of seed or retagged with an orange label "Not Certified Seed", and (10) preventing non-certified seed from being placed in GCIA emblemed bags.

Blending: Seed lots of the same variety and class may be blended and the class retained. If lots of different classes are blended, the lowest class shall be applied to the resultant blend. Such blending can only be done when authorized by the certifying agency.

XV. Seed Treatment

The treatment of seed with an approved pesticide is not generally a requirement but since all seed contain seedborne diseases and are subject to damage by insects, the Association recommends that seed normally treated, be treated for the control of seedborne diseases and insects.

Note: All treated seed must be labeled according to state and federal law. See individual crop standards for specific requirements.

XVI. Tags, Labels & Bags

- A. All seed stocks when sold as certified seed shall have an official tag or label properly affixed to each container in a manner that prevents removal and reattachment without tampering being obvious.
- B. The certification tag, attached to the bag, serves as evidence of the varietal purity and identity of the seed contained therein.

- 1. Each bag meeting the requirements for certification shall be tagged as follows: (Tags shall be printed by GCIA).

White tags for Breeder Seed

White tags for Foundation Seed

Purple tags for Registered Seed (*Light purple from choice of Pantone Matching System numbers 251C, 256C, 257C, 263C, 264C, 270C.*)

Blue tags for Certified Seed (*Light blue from choice of Pantone Matching System numbers 278C, 283C, 284C, 290C, 291C, 297C.*)

Green tags for Quality Assurance Program and Selected Forest Tree Seed

Yellow tags for Source-identified forest tree seed

- 2. Each bulk lot meeting the requirements for certification shall have a certification certificate attached as follows: (Certificates shall be supplied by GCIA).

Purple certificates for Registered Seed (*Light purple from choice of Pantone Matching System numbers 251C, 256C, 257C, 263C, 264C, 270C.*)

Blue certificates for Certified Seed (*Light blue from choice of Pantone Matching System numbers 278C, 283C, 284C, 290C, 291C, 297C.*)

3. No seed will be moved into seed trade, to include pretagged lots, until the conditioner and GCIA have received “Certified” laboratory reports showing the seed meets all requirements of the Georgia Crop Improvement Association.
 4. Preprinted tags shall be removed from the bags and returned to GCIA Office for lots not meeting the germination and purity tests in the laboratory.
 5. All certified seed must be sold in official bags (GCIA emblemed or branded bags), except tree seed, which will be sold in a moisture proof container. GCIA emblem to be canceled on bags of rejected seed lots or retagged with orange label “Not Certified Seed”.
 6. Every bin or bag of certified seed must be positively identified before and after conditioning. The lot number must be stenciled on every bag or drum in case of tree seed.
 7. Bulk Seed Certification – See Appendix A
 8. Pre-Printed Bags – See Appendix B
- C. Downgrading Seed: When registered seed are downgraded and tagged, they may not be reclassified as registered seed.

XVII. Substandard Seed: Any seed that meets all GCIA Standards, except that it germinates below the minimum GCIA standard, but not less than 70% may be certified with tags marked “Below Standard in Germination”. (Exception – the minimum germination of hybrid seed corn shall be 90% as required by the State Seed Law.)

XVIII. Liability:

- A. Responsibility for any obligations, arising from the sale or shipment of seed, which has been certified, rests with the grower or subsequent handler making the sale or shipment. It is the responsibility of certified seed growers to fully comply with the provisions of both the Federal and State Seed Laws and the rules and regulations of the Georgia Crop Improvement Association.
- B. Two official samples are to be taken, one for the laboratory and the other one for the grower to treat and keep in a safe place for a two-year period. Note: The laboratory may keep the sample for the seed grower.

C. Noxious Weeds – List of weeds considered noxious in the State of Georgia.
Note: None are permitted in Georgia Certified Seed.

Balloonvine (*Cardiospermum halicacamun*)
Bermudagrass (*Cynodon dactylon*)
Bindweed, Field (*Convolvulus arvensis*)
Bindweed, Hedge (*Calystegia sepium*)
Blueweed (*Helianthus ciliaris*)
Cheat or Chess (*Bromus commutatus* and/or *Bromus secalinus*)
Coclebur (*Xanthium spp.*)
Corncockle (*Agrostemma githago*)
Crotalaria (*Crotalaria spp.*)
Darnel (*Lolium temulentum*)
Dock (*Rumex spp.*)
Dodder (*Cuscuta spp.*)
Foxtail, Giant (*Setaria feberi*)
Horsenettle (*Solanum carolinense*)
Johnsongrass (*Sorghum halepense*)
Knapweed, Russian (*Acroptilon repens*)
Morningglory, Giant or Moonflower (*Ipomoea turbinata*)
Mustards, Wild & Turnips (*Brassica spp.*)
 Except for Winter Rape (*Brassica napus* var. *biennis*) and
 Rape (*B. rapa* var. *rapa*)
Nightshade, Silverleaf or Purple (*Solanum elaeagnifolium*)
Nutsedge, Purple (*Cyperus rotundus*)
Nutsedge, Yellow (*Cyperus esculentus*)
Onion, Wild or Wild Garlic (*Allium spp.*)
Panicum, Texas or Texas Millet (*Panicum texanum*)
Plantain, Bracted (*Plantago aristata*)
Plantain, Buckhorn (*Plantago lanceolata*)
Quackgrass (*Elytrigia repens*)
Radish, Wild (*Raphanus raphanistrum*)
Rice, Red (*Oryza rufipogon*)
Sandbur, Field (*Cenchrus incertus*)
Sorghum almum (*Sorghum X almum*)
Sorrell, Red or Sheep (*Rumex acetosella*)
Thistle, Blessed (*Cnicus benedictus*)
Thistle, Canada (*Cirsium arvense*)
Tropical Soda Apple (*Solanum viarum*)
Tussock, Serrated (*Nassella trichotoma*)

XIX. Samples and Sampling of Seed – A representative sample of each lot of seed as it is offered for sale shall be obtained for analysis by an approved representative of the certifying agency. Those approved are:

- A. An official State Seed Inspector
- B. Seed plant operator or plant representative
- C. Registered Seed Technologist (Board of Directors 2/57)
- D. GCIA Inspector (Board of Directors 2/73)

At the discretion of GCIA, laboratory reports for germination received within thirty days may be averaged for a final germination to be used in printing tags.

XX. Sampling Procedure

- A. In order to secure a representative sample, equal portions shall be taken from evenly distributed parts of the quantity of seed sampled.
- B. A probe or trier long enough to sample all portions should be used for free flowing seed in bags or in bulk.
- C. Seed moving by conveyors shall have samples taken as the seed go into each bag or at intervals of each fifth bag.
- D. Non-Free flowing seed shall be sampled by hand.
- E. Bulk sampling shall be done by inserting a long probe or by thrusting the hand into the bulk, as circumstances require, in at least seven uniformly distributed parts of the quantity being sampled.
- F. For lots of one to six bags, sample each bag. For lots of more than six bags, sample five bags plus at least 10% of the number of bags in the lot. Regardless of lot size, it is not necessary to sample more than 30 bags.
- G. Carry – Over Seed – Seed that are carried over from the previous year must be resampled and tested before they can be retagged as certified seed. When requesting new tags on carry-over seed, fill out the transcript ticket and mail to GCIA along with one out of date tag from each lot for which new tags are needed.
Note: Save remainder of out of date tags for GCIA inspector to pick up.

H. Lot Sizes:

<u>CROP</u>	<u>SIZE OF CONTAINER</u>	<u>LOT SIZE (MAX)</u>
*Wheat	1 bu. / 60 lbs.	400
*Oats	2 bu. / 64 lbs.	400
*Barley	1 bu. / 48 lbs.	400
*Rye	1 bu. / 56 lbs.	400
Crimson Clover	50 lbs.	200
Fescue	50 lbs.	200
Cotton	50 lbs.	500 (12 ½ T machine Delinted or 12 ½ T Acid delinted)
*Corn	56 lbs	400
*Peanuts	50 lbs	500
*Soybeans	1 bu. / 60 lbs.	400
Okra	1 lb., 5 lbs., 25 lbs., or 100 lbs	Depending on size of Containers and uniformity Of seed or 1000 lbs.
Centipede		10,000 lbs.
Zoysia		10,000 lbs.
* <i>Seed packaged in 50 lbs. Bags may contain up to 500 bags in lot.</i>		

I. Resampling of Seed – When a lot of seed has been rejected because of noxious weed seed and/or objectionable weed seed, another sample may be drawn for analysis by either a GCIA Inspector or a State Seed Inspector provided the lot of seed has been re-cleaned. If the noxious weed is inseparable from the crop, this lot may not be re-cleaned.

J. Forwarding Samples – Before mailing or sending the containers of samples they shall be properly identified and packaged so as to prevent mechanical damage. Note: Use transcript tickets provided by GCIA. Fill out in triplicate - the original copy to GCIA, second copy placed in sample going to laboratory and third copy for conditioner's record.

XXI. Publications of and Adherence to Standards and Procedures

All standards of seed certification must be available in published form.