

***VIRGINIA HANDBOOK
OF
SEED CERTIFICATION STANDARDS***

***Virginia Crop Improvement Association
9142 Atlee Station Road
Mechanicsville, Virginia 23116
Telephone: 804-746-4884
Fax: 804-746-9447***

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SEED CERTIFICATION STANDARDS

General Seed Certification Standards

The general seed certification standards are applicable to the Certification of all seed and to all vegetative material used for propagation. Specific Certification standards for the crops are as follows; provided, however, that crops not provided for herein may be Certified according to Certification Standards last established by the Association of Official Seed Certifying Agencies and such standards that shall subsequently be adopted or amended by the State Certified Seed Board.

A. CERTIFYING AGENCY

The Official Seed Certifying Agency in Virginia is the Virginia Crop Improvement Association, a non-profit organization of seed growers duly chartered under the laws of Virginia.

The Certifying Agency works in cooperation with seed growers, seedsmen, the Divisions of the Virginia Polytechnic Institute and State University, the Virginia Department of Agriculture and Consumer Service, the State Certified Seed Board, and the Association of Official Seed Certifying Agencies in providing an adequate seed Certification program for the State of Virginia. Duties of the Certifying Agency include, but are not restricted to, the following:

- (a) Select qualified growers and producers of Certified seed.
- (b) Maintain and supply foundation seed required in the Certification program.
- (c) Supervise and administer the branding, labeling, and tagging of all classes of Certified seed.
- (d) Promote the production and use of Certified seed.
- (e) Provide field inspection, sampling, tagging and other services, and to make charges for such services to the extent necessary.
- (f) To enforce all standards of Certification hereafter promulgated by the State Certified Board.
- (g) To provide for, require and maintain appropriate records of pedigrees, varieties, and production of all crops under Certification.
- (h) To establish procedures, schedules, deadlines, quotas, and guidelines necessary to the administration of an effective seed Certification program.

B. MEMBERSHIP

The Association may admit as members any persons, or regularly organized body of persons, growing seed on their own land or rented land, or contracting for growth of seed in Virginia, who may choose to make seed growing a special branch of their farming operations, and who conform to the regulations of the Association.

C. PURPOSE OF CERTIFICATION

The purpose of Certification shall be to reproduce and make available to the public, through Certification, high quality seed and propagating material of superior plant varieties so grown and distributed as to insure genetic purity and a minimum of seed or plant-borne diseases. The word seed, or seeds, as used in these Standards shall be understood to include all propagating material that may be Certified.

D. ELIGIBILITY REQUIREMENTS FOR CERTIFICATION OF PLANT VARIETIES

Only those crop varieties that are approved by a member agency or those accepted by the Virginia Crop Improvement Association, with the approval of the Certified Seed Board, shall be eligible for Certification. The word variety, or varieties, as hereinafter used shall include strains and hybrids.

Those varieties for which an application for Plant Variety Protection has been made shall be accepted for Certification provided the required information is supplied by the breeder. For all other varieties the breeder or sponsoring institution or organization must describe and document in an application to the Virginia Crop Improvement Association those characteristics of a variety which gives it distinctiveness and merit.

The VCIA shall require the originator, developer, or owner of the variety, to make the following available when eligibility for Certification is requested:

- (a) The name of the variety.
- (b) A statement concerning the variety's origin and the breeding procedure used in development.
- (c) A detailed description of the morphological, physiological, and other characteristics of the plants and seed that distinguishes it from other varieties.
- (d) Evidence supporting the identity of the variety, such as comparative yield data, insect and disease resistance, or other factors supporting the identity of the variety.
- (e) A statement delineating the geographic area or areas of adaptation of the variety.
- (f) A statement on the plans and procedures for the maintenance of seed classes, including the number of generations through which the variety may be multiplied.
- (g) A description of the manner in which the variety is constituted when a particular cycle of reproduction or multiplication is specified.
- (h) Any additional restriction on the variety, specified by the breeder with respect to geographic area of seed production, age of stand, or other factors affecting genetic purity.
- (i) A sample of seed representative of variety as marketed.

E. CLASSES AND SOURCES OF CERTIFIED SEED

There shall be four classes of seed recognized in the Certification program as follows:

- (a) Breeder seed. Breeder seed is a class of Certified seed directly controlled by the originating or sponsoring plant breeding institution, or person, or designee thereof, and is the source for the production of seed of the other classes of Certified seed.
- (b) Foundation seed. Foundation seed is a class of Certified seed which is the progeny of Breeder or Foundation seed and is produced and handled under procedures established by the Certifying agency, in accordance with this part, for producing the Foundation class of seed, for the purpose of maintaining genetic purity and identity.
- (c) Registered seed. Registered seed is a class of Certified seed which is the progeny of Breeder or Foundation seed and is produced and handled under procedures established by the Certifying agency, in accordance with this part, for producing the Registered class of seed, for the purpose of maintaining genetic purity and identity.
- (d) Certified seed. Certified seed is a class of Certified seed which is the progeny of Breeder, Foundation, or Registered seed and is produced and handled under procedures established by the Certifying agency for producing the Certified class of seed, for the purpose of maintaining genetic purity and identity.

The source of seed planted for the production of any of the above classes of seed shall be documented to the Certifying Agency which shall establish appropriate criteria of acceptance from time to time considering variety, origin, diseases, limited generations, and other factors that may be necessary to implement the Standards of Certification established by the State Certified Seed Board.

F. OFF TYPE

The term “off type” as used in this publication means a plant or seed which deviates in one or more characteristics from the description prepared by the agency responsible for the variety.

G. LIMITATIONS OF GENERATIONS FOR CERTIFIED SEED

The number of generations through which a variety may be multiplied shall be limited to that specified by the originating breeder or owner and shall not exceed two generations beyond the Foundation seed class with the following exceptions, which may be made with the permission of the originating or sponsoring plant breeder, institution, or his designee:

- (a) Recertification of the Certified class may be permitted when no Foundation seed is being maintained.
- (b) The production of an additional generation of the Certified class may be permitted on a one year basis only, when an emergency is declared prior to the planting season by any official seed Certifying agency, stating that the Foundation and Registered seed supplies are not adequate to plant the needed Certified acreage of the variety. The additional generation of Certified to meet the emergency need is ineligible for recertification.

H. ESTABLISHING THE SOURCE OF SEED

When the seed planted for the production of Foundation, Registered, or Certified seed is obtained from another person, all Foundation or Registered tags should be submitted to the Association. Other documentary evidence may be submitted to establish the origin of the seed, such as sales records.

I. APPLICATION FOR CERTIFICATION

Application for inspection of a crop for Certification shall be made on an official application blank of the Association, which may be obtained from Extension Agents, vocational teachers, or by writing to the Association office. The application must be properly filled out and mailed to the Virginia Crop Improvement Association, Richmond, Virginia, not later than the date indicated for that particular crop. Inspection fees and the annual membership fee must accompany the application.

J. DATES FOR FILING APPLICATIONS

Applications should be filed at the office of the Secretary of the Association on or before the following dates:

<u>Crops</u>	<u>Due Dates</u>
Turfgrass Sod	March 1 and August 1
Small Grains	April 1
Grasses	May 1
Soybeans - Herbicide Tolerant Lines	June 1
Peanuts	June 15
Soybeans	September 1
Sweet Potatoes	4 weeks before bedding

K. FEES - New fees adopted 2/18/88

- (a) Membership dues: \$10.00 per year
- (b) Field inspection fee for all crops except sweet potatoes: \$15.00 for first 10 acres (per variety); \$1.00 for each additional acre.
- (c) The lot recording fee is: \$2.00 per lot.
- (d) Certification tags/labels: \$.10 each. (Purchasers of all tags will be billed for any shipping charges or postage.)
- (e) Sweet potatoes bed inspection: \$6.00; storage inspection: \$6.00 for the first 400 bushels, plus \$.01 for each additional bushel.

L. FIELD INSPECTIONS

Field inspections shall be made by qualified inspectors in accordance with appropriate procedures and schedules specified by the official Certifying agency. The unit of Certification shall be a clearly defined field or fields.

One or more field inspections shall be made: (1) previous to the time a seed crop of any class of Certified seed is to be harvested, and (2) when genetic purity and identity can best be determined. The field shall be in suitable condition to permit an adequate inspection to determine genetic purity and identity.

M. PROCESSORS AND PROCESSING OF ALL CLASSES OF CERTIFIED SEED

The following requirements must be met by processors of all classes of Certified seed:

- (a) Facilities shall be available to perform processing without introducing ad-mixture.
- (b) Identity of the seed must be maintained at all times.
- (c) Records of all operations relating to Certification shall be complete and adequate to account for all incoming seed and final disposition of seed.
- (d) Processors shall permit inspection by the Certifying agency of all records pertaining to all classes of Certified seed.
- (e) Processors shall designate an individual who shall be responsible to the Certifying agency for performing such duties as may be required by the Certifying agency.

N. SEED LOT SIZE

The acceptable seed lot size for Certification is as follows:

Peanuts - 500 units or bushels - Not to exceed 25,000 lbs.

Small Grain & Soybeans - 3000 units or bushels, whichever is less.

O. SEED TESTING

Analyses and tests of seed samples shall be conducted by the Division of Product and Industry Regulations of the State Department of Agriculture and Commerce or by commercial seed laboratories approved by the State Certified Seed Board. Guidelines indicating size of sample, sampling procedures, schedules, reporting procedures, and related factors shall be established and administered by the official Certifying agency.

P. SAMPLING OF SEED

Before sampling, seed lots will be cleaned and ready for sale, except labeling. In order to secure a representative sample, equal portions shall be taken from evenly-distributed parts of the seed lot. In quantities of five bags or less, each bag shall be sampled. In quantities of more than five bags, at least every fifth bag, but not less than five bags, shall be sampled. If the quantity is more than 100 bags, a sample should be taken from one in each ten bags. These samples drawn from a given lot shall be thoroughly mixed and a sample drawn from this mixture for laboratory tests.

I. Size of Sample:

(a) 1-1/2 pounds for: wheat, oats, barley, rye, soybeans, peanuts, corn, and cowpeas.

(b) 1/2 pound for: grasses and small seeded legumes.

II. Where to Send Sample:

State Seed Testing Laboratory

1 North 14th Street

Richmond, Virginia 23219

(804) 786-8795 (804) 371-7790 FAX

III. Information to be Included with Sample:

When submitting Certified samples you are encouraged to attach an official Certified sample tag to each seed sample. These tags can be ordered from the Certification office. The following information is requested:

Seed Sample Date Sampled _____

1. Original Sample Retest ____ Carry over ____

2. Complete Test __ or Germ only __ or Other __

3. Class: Service ____ Sample Cert __ Reg __ Found ____

4. Name Seed Treatment _____

5. Other Information _____

6. Lot # __ Variety/Crop _____

7. Grower: _____

Under Contract For:

If the sample is from recleaned or carryover seed, indicate this on the seed sample tag and give previous laboratory sample number and Certification number, and indicate the test required: germination only, purity only, or examination for noxious weed seed only.

Q. LABELING OF CERTIFIED SEED

All classes of Certified seed when offered for sale shall have an official Certification label affixed to each container clearly identifying the Certifying agency, the reference number, the variety name (if Certified as to variety), and the kind and class of seed. Where the complete labeling information is printed on the Certification tag, the percentage of other crops and other varieties will be shown as a total of the two and listed as other crops. Labels shall be attached to containers in a manner that prevents removal and reattachment without tampering being obvious.

R. CARRYOVER SEED

If you use a one tag system, you will need to submit a sample of each carryover lot of seed to the State Seed Laboratory for germination. A copy of the old tag, along with a copy of the new germination report is then sent to the Virginia Crop Improvement office with your order for new tags.

S. SUB-STANDARD SEED IN EMERGENCIES

It is recognized that certain lots of seed that may be desirable for the advancement of crop improvement would be lost if regular Certification standards are adhered to. Therefore, under such circumstances, seed failing to meet Certification standards other than those affecting genetic purity may be Certified, provided there is no injury to the reputation of Certified seed. The Certification tags or labels attached to such seed shall clearly show the respects in which the seed does not meet the regular Certification standards. Such an emergency may be declared by the State Certified Seed Board if evidence indicates that such procedure is desirable and necessary.

T. OBJECTIONABLE WEEDS

Every field for which Certification is requested shall show evidence of good management. Objectionable weeds, the seed of which are inseparable in cleaning, must be controlled. Maximum tolerance of objectionable weed seeds shall be shown in the specific rules of the crop to be Certified.

Unless otherwise stated, objectionable weeds shall be those classified as noxious by the Virginia Seed Law and are prohibited in all classes of Certified seed except when tolerances are stated in the rules of a specific crop. Noxious weeds are divided into two classes as follows:

(A) Prohibited noxious weed seed (no tolerance allowed):

Balloonvine - Cardiospermum halicacabum

Canada thistle - Cirsium arvense

Field bindweed - Convolvulus arvensis

Johnsongrass, sorgrass, and sorghum almuni, and hybrids derived therefrom - Sorghum spp.-perennial

Plurless thistles, which includes musk thistle, and curled thistle - Carduus spp.

Quackgrass - Aquopyron repens

Sicklepod - Cassia tora

(B) Restricted noxious weed seed (tolerances may be allowed for specific crops):

Wild onion bulblets and Wild garlic bulblets - Alluirn spp.

Dodder - Cuscuta spp.

Wild mustard - Brassica spp.

Giant foxtail - Setaria faberi.

Radish - Raphanus spp.

(C) Restricted noxious weed seeds for lawn and turf seed and mixtures thereof. Those kinds listed below shall be restricted noxious weed seeds and shall be declared on the label under the heading “Noxious weed seeds” or “Undesirable grass seed” when present in bentgrasses, Kentucky bluegrass, chewings fescue, red fescue, hard fescue, varieties of perennial ryegrass, varieties of named turf type tall fescue, and/or mixtures containing these grasses. Such weed seeds are:

Annual bluegrass	<u>Poa annua</u>
**Bentgrasses (creeping, colonial, velvet)	<u>Agrostis</u> spp.
**Bermiagrass Giant bermudagrass	<u>Cynodon</u> spp.
**Meadow fescue	<u>Festuca pratensis</u>
Orchardgrass	<u>Dactylis glomerata</u>
**Redtop	<u>Agrostis gigantea</u>
**Rough bluegrass	<u>Poa trivialis</u>
**Tall fescue	<u>Festuca arundinacea</u>
Timothy	<u>Phleum pratense</u>
Velvetgrass	<u>Holcus lanatus</u>

**May be included as a labeled component of a mixture when in excess of 5.0% of the whole. Note Exemptions: This regulation does not apply to restricted noxious weed seeds in grasses or mixtures clearly labeled for pasture, forage, hay, or spoilbank reclamation usage.

U. SEED-BORNE DISEASES

Every field for which inspection for Certification is requested shall show no more than the maximum tolerance for seed-borne diseases permitted to that crop or variety under the specific rules for that crop

V. COMPLYING WITH STATE AND FEDERAL SEED LAWS

The Certifying agency shall implement Certification and insofar as practicable enforce Certification Standards; however, each grower, producer, or handler of any class of Certified seed shall be responsible for compliance with all requirements of Certification as well as all requirements of the Virginia Seed Law and the Federal Seed Act. Sale of any class of Certified seed intentionally in violation of any of the foregoing may serve as a basis for revoking the responsible party's right to grow, produce, or sell classes of Certified seed.

W. GROWERS RECORDS

Each grower of Certified seed is responsible for an accurate record of the names and addresses of the purchasers of his seed, the date of delivery, and the amount delivered. Failure to supply this information to the Virginia Crop Improvement Association, upon request, or to give satisfactory reasons for failure to comply with this rule, is considered sufficient grounds to cancel such grower's membership in the Virginia Crop Improvement Association. When Certified seed is sold to a seedsmen for further processing, and before Certification is complete, the grower must complete a Bulk Transfer Form before Certification tags will be delivered to the purchaser.

X. REJECTION OF FIELDS

Fields of seeds offered for Certification may be rejected for any of the reasons set forth in the specific standards of the crop being considered. They may also be rejected because of poor workmanship on the part of the grower while in the field or poor quality in the harvested seed, should these factors be sufficient to constitute a reflection on the good name of Certified seed. Such rejections shall be made at the discretion of the inspector.

Y. SPECIAL REQUIREMENTS FOR CONTRACT SEED PRODUCTION

Members wishing to produce Certified seed under contract with growers must agree to the following requirements:

- (a) Designate a "field man" responsible for the supervision of all contract production.
- (b) Select good farmers as growers, work with them in planning for the seed production, and go over a memorandum of understanding with them which will include the contract agreement. Each grower should be furnished a copy of the Certification Standards for the crop being produced. Copies of crop standards are available at the Crop Improvement Office.
- (c) Visit each field during the growing season to determine whether any field should be rogued or cancelled. The contractor will have all roguing done prior to the Virginia Crop Improvement Association inspection.

- (d) Complete an application, and for each grower supply proof of source of seed planted by submitting tags and invoices showing variety, class, lot number, and quantity.
- (e) Have the field man accompany the Virginia Crop Improvement Association inspector to all fields whenever possible.
- (f) Insure that all planting, harvesting and hauling equipment, and storage facilities are properly cleaned prior to usage.
- (g) Keep each seed lot properly identified at all times.
- (h) Properly clean all processing equipment between the processing of non-certified and Certified seed and between the processing of different varieties of Certified seed.

Z. INTER-AGENCY CERTIFICATION

Inter-agency Certification may be accomplished by participation of the VCIA with an official Certifying agency in another state. The seed would need to meet all other requirements for the class and variety as indicated in other sections of the regulations.

Seed for inter-agency Certification must be received in containers carrying official Certification labels, or if shipped for processing, evidence of its eligibility from another Certifying agency, together with the following information:

- (1) Variety (if Certified as to variety).
- (2) Quantity of seed (pounds or bushels).
- (3) Class of Certified seed.
- (4) Inspection or lot number traceable to the previous agency's records.
- (5) Each label used in inter-agency Certification shall be serially numbered or carry the Certification identity number and identify the Certifying agencies involved. The kind and Variety will be shown.

AA. CERTIFICATION FOR GENETIC PURITY ONLY

Virginia Certified seed must meet all mechanical and germination standards under Certification, with the provision that those varieties protected through Certification under the Plant Variety Protection Act which fail to meet Certification because of germination or mechanical standards, can be Certified with a substandard label.

PEANUT CERTIFICATION STANDARDS

1. General standards.

The general standards as adopted in the front of this publication are basic and applies to peanuts.

2. Land requirements.

Registered and certified peanuts shall be planted on land on which the previous crop was of another kind or planted with certified seed of the same variety. Foundation peanuts will not be eligible for certification if planted on land which grow peanuts either volunteer or a planted crop the previous two years unless the preceding crop was grown from certified or registered seed of the same variety. A field which includes an area where peanuts were threshed or where thresher refuse was spread during the preceding year shall not be eligible for certification.

3. Field standards.

a. Field inspection.

At least one field inspection shall be made prior to harvest.

b. Isolation.

Isolation shall consist of a physical barrier such as a ditch, roadway, fence row or a ten—foot strip devoid of peanuts or two rows of some other crop.

c. Specific.

Factor	Maximum Permitted in Each Class		
Other varieties	Foundation none	Registered 1:500 (0.2%)	Certified 1:200 (0.5%)
Other crops	none	none	none

Inspection of the equipment used in drying certified peanuts to see that it is operated according to the following guidelines is required. The thermostat and humidistat used on drying certified peanut seed must be set according to ambient air conditions. If a humidistat is not available or operative, the maximum temperature setting should be 80° F. Even though a humidistat is utilized, the temperature should never exceed 90° F. during the drying process. Natural air should be used in the day unless the relative humidity exceeds 65%, in which case supplemental heat may be necessary. If supplemental heat is needed, never use over 10° to 15° F temperature rise. The airflow rate should be 10—15 cubic feet per minute per cubic foot of peanuts. The depth for peanuts in the dryer should be limited to about four feet for 30% moisture peanuts; for higher moisture content, the depth should be reduced.

4. Seed standards.

	Class		
	Foundation	Registered	Certified
Pure Seed (minimum)	97.0%	97.0%	97.0%
Inert Matter (maximum)	3.0%	3.0%	3.0%
Weed Seed (maximum)	None	None	None
Other Crop Seed			
Other kinds (maximum)	.01%	.01%	.02%
Other varieties (maximum)	None	.2%	.5%
Germination (minimum)	85.0%	75.0%*	75.0%*
Bottom Screen Size (minimum)	16/64	16/64	16/64

* Registered and certified peanut seeds that germinate 85% or higher must be labeled no less than 85% and Registered and certified seed that germinates 80—84% must be labeled no less than 80% and those seed that germinate 75—79% must be labeled no less than 75%.

SMALL GRAIN CERTIFICATION STANDARDS

1. General standards.

The general standards as adopted in the front of this publication are basic and applies to small grain.

2. Land requirements.

A crop of small grain will not be eligible for certification if planted on land on which a small grain crop was grown the year previous except a crop of the same variety grown from certified seed.

In fields double-cropped, neither of the two crops grown in the previous calendar year shall have been the same kind as the crop being inspected, unless they were grown from a class of certified seed of the same variety.

3. Field standards.

a. Field Inspection - At least one field inspection shall be made after the crop is fully headed when varietal or crop mixtures can best be determined.

b. Isolation -

(1) Wheat, Oats, Barley, Triticale - A field shall be separated by a strip of ground adequate to prevent mechanical mixtures. The strip may be either mowed, uncropped or planted to some crop than the kind being certified.

(2) Rye - All rye fields used for the production of certified seed must be isolated by at least 220 yards from the fields of any other variety or varieties of rye or fields of the same variety that do not meet the varietal purity requirements for certification. Isolation between diploid and tetraploid rye shall be at least 15 feet.

c. Specific.

Factor	Maximum Permitted in Each Class		
	Foundation	Registered	Certified
Other Varieties	None	1:5000	1:2000
* Inseparable Other Crops	None	None	10 plants per acre
Inseparable Objectional Weeds	None except trace of onion	None except trace of onion	None except trace of onion & trace cockle
**Seed-borne Diseases.	1:20,000 (.005%)	1:10,000 (0.01%)	1:200 (0.5%)

*Inseparable other crops shall include crop plants, the seed of which cannot be thoroughly removed by the usual methods of cleaning. No rye in other small grains permitted.

**No tolerance for stinking smut in wheat.

4. Seed standards.
Factor

	Standards for Each Class		
	Foundation	Registered	Certified
Pure Seed (minimum)			
Wheat, Barley	99.0%	99.0%	99.0%
*Oats, Rye	98.0%	98.0%	98.0%
Inert Matter (maximum)			
Wheat, Barley, Triticale	1.0%	1.0%	1.0%
*Oats, Rye	2.0%	2.0%	2.0%
Weed Seeds	.01%	.02%	.05%
**Objectionable Weed Seeds	1/16 per oz.	1/12 per oz.	1/8 per oz.
***Other Crops	None	None	.05%
Other Varieties	None	.01%	.05%
Germination			
Barley, Oats	90.0%	90.0%	90.0%
Wheat, Rye	85.0%	85.0%	85.0%
Nematodes	None	None	None

*The purity standard for oats may be 98% provided not more than 1% of the impurities consist of impurities other than empty glumes.

**May include wild onion bulblets and wild mustard at the rate of not more than 1/16 per ounce for foundation; 1/12 per ounce for registered; 1/8 per ounce for certified. No corn cockle shall be included in this percentage.

***Registered small grain may contain .01% of the following other crop seed, red clover, lespedeza, orchardgrass, fescue, timothy and rye grass.

SOYBEAN CERTIFICATION STANDARDS

1. General standards.

The general standards as adopted in the front of this publication are basic and together with the following standards constitute the standards for soybeans.

2. Land requirements.

The crop shall not be grown on land on which soybeans were grown the previous year, unless that crop was grown from certified seed of the same variety.

3. Field standards.

a. Field inspection.

At least one field inspection, preferably after the leaves have dropped, shall be made by an inspector of the certifying agency.

b. Isolation.

Fields of soybeans shall be separated from any other variety or uncertified seed of the same variety by a distance of 20 feet or 10 border rows of the inspected crop shall not be harvested for seed.

c. Specific.

Factor	Field Inspection		
	Foundation	Registered	Certified
Other Varieties	1:10,000 (0.01%)	1:1000 (0.1%)	1:400 (0.25%)
Corn and/or Sunflower Plants Bearing Seeds	None	None	2 plants/acre
Total Objectionable Weeds.	*TMG	*TMG	*TMG

*Trace morning glory

4. Seed standards

Factor	Standard for Each Class		
	Foundation	Registered	Certified
Pure Seed (minimum)	99.0%	99.0%	98.5%
Inert Matter (maximum)	1.0%	1.0%	1.5%
*Weed Seeds (maximum)	.01%	.01%	.02%
Objectionable Weed Seed (maximum)	None	None	None
Other Crops	None	None	.01%
**Other Varieties	.01%	.1%	.25%
Germination (minimum)	80.0%	80.0%	80.0%

*Total weed seed shall not exceed ten per pound.

TURFGRASS SOD CERTIFICATION STANDARDS

1. General standards.

- a. The general standards as adopted in the front of this publication are basic and applies to turfgrass sod.
- b. Only fields planted with Foundation, Registered or Certified seed that meet sod seed requirements will be eligible for certification.
- c. Only those varieties, kinds or mixtures of kinds of varieties recommended by the Virginia Tech Extension Division will be eligible for certification.

2. Land requirements.

- a. All fields for the production of certified sod must be inspected prior to planting unless they have been producing certified sod.
- b. Have field boundaries designated at the time of inspection.
- c. Fields will need to be free of prohibited noxious weeds as defined by the state sod law.
- d. File with the Virginia Crop improvement Association the number of acres and kinds of mixtures for all fields intended for certification the year the field is established.
- e. An aerial photo of the farm or other suitable farm plans must be filed with the Virginia Crop Improvement Association.

3. Field standards.

- a. Field inspection.

At least one annual field inspection shall be made prior to lifting and subsequent inspections may be made as needed at the discretion of the inspector. Fields will have to be in a certifiable condition at the time of lifting.

- b. Management.

A field for the production of Certified sod must show evidence of good management including weed control, fertilization and proper clipping. Virginia Tech publication MA-130 will be used as a guide for the management program.

- c. Isolation.

A certified turf field must be separated from other sod by a strip at least 10 feet wide and maintained free of objectionable weeds. The field must have good general appearance, and poor appearance will be sufficient reason for rejecting the field for certification. Certification can be revoked where certified standards are not maintained.

4. Specific requirements.

- a. Standards for other varieties or off—type plants of the same species; other turfgrass species, other crops, and weeds recognizable are as indicated in the following table.

Turfgrasses Eligible for Certification
 Ky. Bluegrass and or Creeping
 Red Fescue Mixture

Tall Fescue &
 Bluegrass

Plants per 1,000 square feet

Bentgrass	0	0
Bermudagrass	0	0
Tall fescue	.5	-
Ryegrass	.5	-
Total perennial grasses (Such as orchardgrass and timothy)	.5	20
Weeds		
*Unacceptable	0	0
**Objectionable	10	10

*Quackgrass, poison ivy or oak and Johnsongrass.

**Hard to control weeds should not exceed 10/1,000 sq. ft. Broad leaved weeds that are rather easily controlled should be no more than 3/1,000 sq. ft.

b. Labeling requirements.

All certified sod will have an official certification label accompanying each load and the label must be attached to a dated invoice or labeling information.

c. Records.

Records must be kept on the number and date of issuance of certification labels.

REQUIREMENTS FOR BULK CERTIFICATION

- A. All field and seed standards applying to bagged seed shall also apply to seed sold in bulk.
- B. Only small grains, corn and soybeans can be sold in bulk.
- C. No Foundation or Registered seed shall be sold in bulk.
- D. There will be only two transfers of bulk seed:
 - 1. From the grower to the processor; and
 - 2. From the processor to the field.
- E. There will be no interstate movement of bulk seed unless approved by the association and the cooperating state.
- F. Retail seed outlets handling bulk seed must be approved by the Certification Agency on a yearly basis. Inspections will be made of handling, storage and processing facilities.
- G. All bins must be clearly marked to show crop and variety and separate bins must be available for each variety.
- H. A bulk sale certificate must be issued for each bulk sale and the white copy of this form sent to the Certification Agency within 10 days after the sale.
- I. The following records must be maintained and be available for inspection upon request by the Certification Agency:
 - 1. Amount of Certified seed grown and processed for bulk sale.
 - 2. Amount of Certified seed sold by variety and lot number.
 - 3. Current inventory of seed available for sale of each variety.
- J. No certification tags are to be issued when certified seed is sold in bulk.
- K. Bulk sale certificate forms are available at the Association office.

SWEET POTATO CERTIFICATION STANDARDS

1. General standards.

The general standards as adopted in the front of this publication are basic and applies to sweet potato.

Only the Foundation and Certified classes of seed will be recognized. Certified seed or plants shall not be more than two generations removed from Foundation seed. (This applies only when Foundation seed is available, otherwise Certified seed may be produced from Certified seed as many years as the required standards are met). Seed potatoes must be treated prior to bedding. Production fields must be planted from vine cuttings or with pulled sprouts that have been treated. All chemical treatments used must be approved by the Research Division at Virginia Polytechnic Institute and State University or the Virginia Truck and Ornamental Research Station.

2. Land requirements.

Fields to be eligible for certification must not have been in the production of sweet potatoes or received sweet potato residue or animal manure or drainage water from sweet potato fields for the three previous years.

3. Field standards.

a. Plant bed and plant stands.

(1) Plant bed inspections.

At least one inspection shall be made. Beds which show the presence of black rot, stem rot, scurf, or varietal mixture will be rejected.

(2) Plant beds must be moved each year or old plant beds may be used if disinfected by use of chemicals, provided all the old bedding material, roots and plants are removed within 30 days of the final pulling. New bedding medium will be taken from an area which will meet the minimum standards set forth in "Land requirements."

(3) Plant standards. If plants are to be sold:

(a) Plants shall be free of varietal mixtures, injurious insects and the diseases black rot, scurf, and stem rot.

(b) Plants shall be fresh, of good color and satisfactory size for commercial planting (suggested length approximately 8 inches to 12 inches).

b. Post-plant bed standards.

(1) Field Inspection.

At least one field inspection shall be made and the following requirements must be met:

(2) Isolation.

All fields for certification shall be separated from other sweet potato fields by at least an eight-foot strip in which no sweet potatoes have been planted.

(3) Specific.

Factor	Maximum number of hills/acre	
	Foundation	Certified
Other Varieties	None	None
Mutations	None	5
Stem rot (wilt, blue stem)	None	5
Georgia Mosaic (Yellow dwarf)	None	None

4. Seed storage standards.

a. General requirements.

Different varieties and lots must be labeled and shall be separated by an aisle of two or more or other means acceptable to the certifying agency. Seed potatoes shall be stored in new containers or 1n used containers that have been treated.

b. Storage inspection.

(1) At least one inspection shall be made after January 1.

(2) Seed for sale must be graded to meet the following standards:

Factor	Size in Inches
Diameter (maximum)	2 ¼
Diameter (minimum)	1
Length (maximum)	9
Length (minimum)	3

The length is measured from the ends where the root is about 3/8 inches in diameter.

(3) The following standards are applied to the graded roots which must have good external and internal color:

Factor	Maximum	
	Foundation	Certified
Black rot	None	None
Scurf	None	1:1000
Stem rot (wilt, blue stem)	None	None
Soil rot	1:100	5:100
Surface rot	1:100	5:100
Internal breakdown	1:100	5:100
* Internal cork (surface area index)	1	1

*A one—bushel representative sample must be shipped to the Virginia Truck Experiment Station, Virginia Beach, Virginia not later than December 1. Internal cork reading will be made prior to storage inspection.