

2005

SEED CERTIFICATION STANDARDS

Nebraska Crop Improvement Association

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NEBRASKA CROP IMPROVEMENT ASSOCIATION

SEED CERTIFICATION STANDARDS

September 2005

Nebraska Crop Improvement Association
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INTRODUCTION TO THE NEBRASKA CROP IMPROVEMENT ASSOCIATION

VISION STATEMENT

The Nebraska Crop Improvement Association is dedicated to enhancing the economic viability and well-being of the people in Nebraska and the world through value-added products and processes.

We will achieve this goal through an organizational structure which attracts the finest people, fully develops and challenges individual talents, encourages industry-wide collaboration to advance agriculture, and maintains the Association's historic principles of integrity.

The Nebraska Crop Improvement Association (NCIA) is a non-profit educational and service organization which was founded in 1902. It is the designated agency of the University of Nebraska that is authorized as the seed certifying agency for Nebraska. The Association policies are administered by a ten member Board of Directors. Seven Directors are elected from the active membership. The remaining three Directors are Ex-Officio representing the Nebraska Seed Trade Association, Department of Agronomy and Horticulture, and the Institute of Agriculture and Natural Resources. The officers are elected annually by the Board. The Association headquarters are located at the University of Nebraska-Lincoln.

Certified seed was first produced in Nebraska during 1920. However, it was not until 1931 that seed approved for certification by Nebraska Crop Growers Association was given official status by the state seed law. That year, the Nebraska House of Representatives passed H.R. 67 which provide for certification of seeds and plant parts intended for propagation or sale in Nebraska and specified that the certification program would be on a self-supporting basis. The Nebraska Crop Growers Association was designated as the official agency for certification of seed crops with the exception of seed potatoes. The NCGC's name was changed to the Nebraska Crop Improvement Association in 1942.

Certification of seed quality in Nebraska is based on both genetic and mechanical standards. All Nebraska certified seed must meet minimum standards for genetic purity, germination, and mechanical purity. A full-service seed laboratory was established within the Association in 1943. Currently, the Association is the only Association of Official Seed Certifying Agencies member whose seed laboratory component is recognized by the Association of Official Seed Analysts as an official member.

The Nebraska Crop Improvement and its members have a strong tradition of service. However, the Association is also receptive to change to meet the needs of its members - which enables response to meet customer needs while continuing to improve the quality and diversity of seed planted and services provided.

For further information about the Nebraska Seed Certification program or other NCIA programs and activities, contact:

Nebraska Crop Improvement Association
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GENERAL SEED CERTIFICATION STANDARDS

1. The Certifying Organization

- A. The Nebraska Crop Improvement Association (NCIA) is a non-profit corporation designated as the official agency for certifying quality of seeds and/or vegetative plant materials of all crops except potatoes. It is designated by the Vice Chancellor, Institute of Agriculture and Natural Resources, University of Nebraska - Lincoln as enabled under the laws of the State of Nebraska. It is not a marketing agency and makes no representations or warranties of any kind, expressed or implied, which extends beyond the certification that the seeds or vegetative material inspected met the regulations of this agency.
- B. Scope of Certification – Certification is limited to seeds or vegetative plant materials of officially recognized varieties, grown and inspected to assure the varietal identity and genetic purity. "Certification" of any seed lot by the NCIA means only that the certified seed lot has been visually inspected and random samples have been tested and found to be in compliance with applicable standards set forth by the Nebraska Crop Improvement Association. Certification of any lot is not a guarantee or warranty that the certified lot is free from defects such as seed borne diseases or noxious weeds.

2. The Purposes and Activities of the NCIA

- A. To enhance the production and utilization of certified quality seed or vegetative plant materials of adapted cultivars grown in Nebraska by providing services to members through uniform standards, policies, and procedures.
- B. To provide educational activities to increase public awareness and encourage the use of quality seed and vegetative plant materials.
- C. To cooperate in the development of seed quality programs which add value to products for NCIA members, producers and consumers.
 - 1) Genetic Certification through traditional certification, Identity Preserved, and Source Identified or Quality Assurance seed and grain programs.
 - 2) Quality Assurance for branded products
 - 3) Phytosanitary Inspections
 - 4) Process Verification Auditing
- D. To work for improving the agronomic practices and furthering agricultural interests in the state.
- E. To maintain a cooperative working relationship with plant breeders, seed industry, seed regulatory agencies, governmental agencies, Cooperative Extension, AOSCA member agencies, and other groups and individuals that can help fulfill these purposes.

3. Membership in the Association

Any person, partnership, or corporation who intends to produce and/or condition certifiable seed or vegetative plant materials within the state must become a member. All members pay applicable fees and subscribe to the provisions of the Articles of Incorporation and By-Laws. All other parties who support the production and/or marketing of seed may become non-voting member.

- A. Each member must comply with all applicable certification procedures and Standards, Nebraska Seed Law, and Federal Seed Act requirements.
- B. **Probation:** A member may be placed on probationary status for:
 - 1) Failing to abide by applicable rules and regulations
 - 2) A violation of the Plant Variety Protection Act documented by seed regulatory officials
 - 3) Other violations of ethical business conduct as determined by the NCIA Board.
 - 4) Repeated failure of a seed conditioner to achieve suggested quality goals and/or other requirements specified in these standards.

The normal probation period will be one year. Terms of the probation will reflect the nature and severity of the violation.

- C. The NCIA further reserves the right to suspend all services and eligibility for participation to a member as enabled by the Nebraska Certified Seed Law for violation of probation, demonstrated disregard for standards and procedures, or for other reasons stated in these Standards.

4. Interpretation and Amendment of Rules

The Board of Directors has the authority to interpret and amend as necessary any provision of the rules, regulations, and procedures for certification of varietal identity and seed quality factors.

5. Requirements for Determining Cultivar Eligibility and Merit

- A. The term "variety" means a subdivision of a kind which is distinct, uniform, and stable. "Distinct" in the sense that the variety can be differentiated by one or more identifiable morphological, physiological, or other characteristics from all other varieties of public knowledge. "Uniform" in the sense that variations in essential and distinctive characteristics are describable. "Stable" in the sense that the variety will remain unchanged to a reasonable degree of reliability in its essential and distinctive characteristics and uniformity when reproduced or reconstituted as required by the different categories of varieties.
- B. The NCIA requires the originator, developer, or owner of a crop cultivar, or designated agent, to make the following information available.
 - 1) Name of the cultivar (variety or hybrid)
 - 2) A statement concerning the cultivar'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 cultivars and of any known variants.
 - 4) Evidence supporting the identity of the cultivar such as comparative yield data, insect and disease resistance, or others.
 - 5) A statement specifying the geographic area of adaptation of the cultivar.
 - 6) A statement of the plans and procedures for the maintenance of seed classes, including the number of generations through which the cultivar may be multiplied.
 - 7) A description of the manner in which the cultivar is constituted when a particular cycle of reproduction or multiplication is specified.
 - 8) Any additional restrictions on the cultivar specified by the breeder, with respect to geographic area of seed production, age of stand, or factors affecting genetic purity.
 - 9) A sample of seed representative of the cultivar as marketed.
- C. For certain cultivars whose originator, developer, or owner requires a licensing fee and/or Research and Development fee (or royalty) as a condition to rights of seed production, the releasing organization should provide pertinent information in regard to fees, assessment, and collection procedures to the NCIA prior to initial allocation of Foundation seed. These procedures will be subject to applicable provisions of the policy on the Release of Improved Plant Varieties of the Agricultural Research Division, IANR-UNL.

6. Steps for Cultivar Approval

The NCIA will recognize a crop cultivar as eligible for the seed certification program after approval of the documentation required in Section 5 by one or more of the following:

- A. National Variety Review Board.
- B. Plant Variety Protection Office
- C. A member agency of the Association of Official Seed Certifying Agencies.
- D. OECD Seed Schemes List of Eligible Cultivars.
- E. Varietal release committee of the Nebraska Agricultural Research Division, IANR-UNL.
- F. Private breeders release statement.

The NCIA Board of Directors is the final authority if there are questions in regard to eligibility of a variety.

7. Certified Seed Classes

- A. Four classes of certified seed are recognized: Breeder, Foundation, Registered, and Certified. These seed classes must meet the standards of the Association of Official Seed Certifying Agencies (AOSCA) for the respective crops. The four classes are defined in Section 8.

- B. The number of generations through which seed of a variety may be multiplied will be limited to that specified by the originating breeder or owner of the variety but will not exceed two generations beyond the Foundation seed class, with the following exceptions:
- 1) With written approval from the NCIA, a grower may be permitted to produce Certified seed from Registered seed that was fully inspected but not accepted because of factors other than genetic identity and purity of germplasm.
 - 2) The production of an additional generation of the Certified class may only be permitted on a one-year basis when:
 - a) An emergency is declared by the certifying agency stating that Foundation and Registered seed supplies are not adequate to plant the needed certified acreage of the variety.
 - b) Foundation or Registered class seed must not be available in any other state to establish the needed certified acreage.
 - c) Emergency declaration will not be made because of the failure of Foundation class seed to meet mechanical purity or germination standards.
 - d) Written permission of the originating or sponsoring plant breeder, institution, firm, or owner of the variety is obtained (if applicable).
 - e) The additional generation of Certified seed produced to meet the emergency need is declared to be ineligible for Re-certification.
 - 3) Varieties no longer maintained by the breeder or Foundation seed may be maintained by a designated member in good standing with the association, for the purpose of producing certified seed under the following guidelines:
 - a) Permission must be obtained from the originating plant breeder or institution
 - b) NCIA must approve the maintenance of the variety.
 - c) The field(s) must be inspected for certification in each subsequent year of establishment and production.
 - d) Complete production and sales reports are reported to the NCIA each year.

8. Definitions

Applicant – the individual, partnership, or corporation in whose name application is made for field inspection. This identification shall be retained throughout the certification process with the field and seed lots.

Blend or blending – the process of commingling two or more lots of seed of the same kind to form one seedlot of uniform quality or a seedlot consisting of more than one variety of a kind, each in excess of five percent by weight of the whole.

Interagency certified seed blend – a blend of varieties that has been co-mingled according to regulations of the NCIA. Each blend component shall be certified initially in its state of origin. The individual components of the blend must be listed on the certification label, along with original lot number, germination and state of origin.

Brand – word, name, symbol, number, or design to identify the seed of one NCIA member to distinguish it from seed of another member.

Certified turfgrass – vegetatively propagated turfgrass plants (sod, plugs, or sprigs) which have been produced, inspected, handled, and labeled in accordance with the approved procedures/regulations and meets the premium landscape quality standards. Only the Certified class is recognized in vegetative sod, plugs, and sprigs production and marketing.

Classes of seed

Breeder – 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 on the other classes of certified seed.

Foundation – 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 the Federal Seed Act, for producing the Registered class of seed, for the purpose of maintaining genetic purity and identity.

Registered – 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 Federal Seed Act regulations for producing the Registered class of seed for the purpose of maintaining genetic purity and identity. Varieties with a non-saleable Registered class specified in the variety release statement cannot be sold or transferred unless downgraded to, and labeled as, the certified class. No registered tags or labels will be issued for these varieties to ensure compliance with the variety release statement. Only the original purchaser of the foundation class seed, or their contract growers, may plant the harvested seed as the registered class.

Certified – 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 in accordance with Federal Seed Act regulations for producing the Certified class of seed for the purpose of maintaining genetic purity and identity.

Tested – Is a class of propagating materials that shall be the progeny of plants whose parentage has been tested and has proven genetic superiority or possesses distinctive traits for which the heritability is stable, as defined by the certifying agency, but for which a variety has not been named or released.

Selected – Is a class of propagating materials that shall be the progeny of phenotypically selected plants of untested parentage that have promise but no proof of genetic superiority or distinctive traits.

Source-Identified – Is a class of propagating materials collected from natural stands, seed production areas, seed fields, or orchards where no selection or testing of the parent population has been conducted.

Conditioning – drying, cleaning, sizing, scarifying, or any other operations performed on seed between harvest and marketing which could change the purity or germination of seed.

Dormant seed – viable seeds other than hard seeds, which fail to germinate when provided the specified germination conditions for the kind of seed in question. Viability of ungerminated seeds shall be determined by appropriate methods or combinations of methods.

Germination – the percentage of seeds capable of producing normal seedlings under ordinarily favorable conditions (not including seeds which produce weak, malformed, or obviously abnormal sprouts), determined by methods prescribed by either the AOSA, Federal, Canadian, or ISTA seed testing protocols.

Hard seed – The percentage of seeds which because of hardness or impermeability do not absorb moisture or germinate under prescribed tests but remain hard during the period prescribed for germination of the kind of seed concerned.

Hybrid – the first generation seed of a cross produced by controlling the pollination and combining (1) two or more inbred lines (2) one inbred or a single cross with an open pollinated variety or (3) two selected clones, seed line varieties, or species and including the following. Hybrid designations shall be treated as variety names.

- A. **Commercial hybrid**—one to be planted for any use except seed production. It may be any of the following:
 - 1) **Single cross**—The first generation hybrid between two inbred lines.
 - 2) **Double cross**—The first generation hybrid between two single crosses.
 - 3) **Top cross**—The first generation of a cross between an inbred line and an open pollinated variety or the first-generation hybrid between a single cross and an open-pollinated variety.
 - 4) **Three-way cross**—The first generation hybrid between a single cross and an inbred line.
- B. **Foundation single cross** is a single cross used in the production of a double cross, three-way cross, or a top cross.
- C. **Foundation backcross**
 - 1) A first generation Foundation backcross must be the first generation cross between a Foundation single cross of related inbred lines and an inbred line which shall be the same as one of the inbreds in the Foundation single cross.
 - 2) A second generation Foundation backcross must be the cross of a first generation backcross (seed parent) with its recurrent inbred parent (pollen parent).

Inbred line – a relatively true-breeding strain resulting from at least five successive generations of controlled self-fertilization or of backcrossing to a recurrent parent with selection or its equivalent for specific characteristics.

Inert matter – all matter, not seed, which shall include broken seeds, sterile florets, chaff, fungal bodies, and stones as established by AOSA rules and regulations.

Kind – one or more related species or sub-species which singly or collectively is known by one common name such as corn, oats, alfalfa, smooth brome, etc.

Label – the display(s) of written, printed, stamped, or graphic matter on or attached to the container of seed.

Labeling – all labels or other written, printed, stamped, or other graphic representations in any form whatsoever, accompanying and pertaining to any seed, whether in bulk or in container and shall include representations on invoices.

Lot – a definite quantity of seed (in containers or bulk) identified by a lot number or other mark, every portion of which is uniform, within recognized tolerances, for the factors that appear in the labeling.

Mixture – a seed lot consisting of more than one kind of crop resulting from the co-mingling of two or more lots of seed.

Interagency certified seed mixture – a mixture of kinds that has been co-mingled according to the regulations of the NCIA. Each mixture component shall be certified initially in its state of origin. The individual components of the mixture must be listed on the certification label, along with original lot number, germination and state of origin.

None – zero seeds or zero occurrence of the undesirable quality factor can be found during inspection or in the sample submitted. None is not a guarantee that the lot or sample is free of the factor.

Noxious weed seeds – seeds or bulbs of plants recognized as noxious either by the Nebraska Seed law, Federal Seed Act or by the regulations of the certifying agency.

Objectionable Weeds – the seeds of which are indistinguishable or cannot be thoroughly removed by the usual methods of conditioning from seed of the crop being inspected.

Off-types – any seed or plant not a part of the variety in that it deviates in one or more characteristics from the variety as described and may include: seeds or plants of other varieties, seeds or plants not necessarily any variety, seeds or plants resulting from cross-pollination by other kinds or varieties, seeds or plants resulting from uncontrolled self-pollination during production of hybrid seed, or segregates from any of the above plants.

Open-pollinated seed – seed produced as a result of natural pollination as opposed to hybrid seed produced as a result of controlled pollination.

Other crop seed – seeds of plants grown as crops other than the kind or variety included in the pure seed.

Plant breeder – a person or organization actively engaged in the breeding and maintenance of varieties of plants.

Protected Variety – a variety for which an application has been made or accepted and a certificate of plant variety protection is issued under the U.S. Plant Variety Protection Act.

Pure Live Seed (PLS) – the product of the percent of germination plus percent of hard or dormant seed multiplied by the percent of pure seed divided by one hundred. The result is expressed as a whole number.

Pure seed – seed exclusive of inert matter and all other seeds not of the seed being considered.

Record – (1) information which relates to the origin, treatment, germination, purity, kind, and variety of each lot of seed handled, transported, or delivered for transportation in intrastate or interstate commerce. Such information includes seed samples and records of declarations, labels, purchases, sales, cleaning, bulking, treatment, handling, storage, analysis, tests, and examinations. (2) The complete record kept by each member for each treatment substance or lot of seed, consists of the information pertaining to his own transactions and the information received from others pertaining to their transactions with respect to each treatment substance or lot.

Representative sample – a sample drawn from a conditioned quantity or lot of seed (either in bulk or containers) in accordance with recognized sampling procedures.

Sale (in any of its variant forms) – to sell, barter, exchange, offer for sale, expose for sale, move, or transport in any of their variant forms.

Sod – turfgrass sod, turfgrass plugs, or turfgrass sprigs consisting of a single kind and variety or a blend of varieties or a mixture of kinds and varieties.

Sod Quality – a high quality grade of Certified turfgrass seed so grown, conditioned, labeled, and tested to exceed minimum certification standards.

Treated – that seed has been given an application of a substance or subjected to a process or coating designed to reduce, control, or repel disease organisms, insects, or other pests which attack seeds or seedlings.

Turf – a live population of one or more kinds of grasses, legumes, or other plant species used for lawns, recreational areas, soil erosion control, or other similar purposes and that is sold as vegetative sod, plugs, or sprigs.

Turfgrass Sod – a strip or section of live turfgrasses which, when severed, contains sufficient plant material to remain intact.

Turfgrass Plug – a small section cut from live turf of those turfgrasses normally vegetatively propagated, such as buffalograss, which when severed contains sufficient plant material to remain intact.

Turfgrass Sprig – a live plant, stolon, crown, or section cut from a perennial plant used as a turfgrass.

Unit of certification – a clearly defined field or fields which may be subdivided subject to special regulations for specific crops.

Variants – seeds or plants which are (a) distinct within the variety but occur naturally in the variety, (b) are stable and predictable with a degree of reliability comparable to other varieties of the same kind, within recognized tolerances, when the variety is reproduced or reconstituted, and (c) which are originally a part of the variety as released. Variants are not to be considered off-types. The breeder or sponsoring institution or organization shall identify variants as a part of the variety description.

Variety (cultivar) – an assemblage of cultivated individuals which are distinguished by any characters (morphological, physiological, cytological, chemical, or others) significant for the purpose of agriculture, forestry, or horticulture and which, when reproduced (sexually or asexually) or reconstituted, retain their distinguishing features.

Weed seed – the seeds of any plant commonly known as a weed within this state. Weed seeds will be classified either as primary noxious, prohibited noxious, restricted noxious, objectionable, or common.

9. Membership Categories

An Application for Membership is available from the NCIA office. Each member must have a current application on file. Identification of members by a classification system enables the NCIA staff and directors to focus on priority needs of each group and offer services necessary for accomplishing members' goals. The annual membership fee is due in January. Membership fees are determined to be that amount which is adequate to cover the cost of promotion, member education, administration, printing, and other special services for each category. Only membership categories (A), (B), (C), (D) can vote in association business and be elected to hold offices. All others are considered non-voting, non-office holding memberships.

- A. **Grower** – A member who applies for field inspection services and uses the services of either Custom or Approved Conditioners to prepare seed for marketing channels.
- B. **Grower-Conditioner** – A member who applies for field inspection services and has adequate facilities for conditioning his own seed produced from inspected acres in preparation for marketing channels. A grower-conditioner cannot serve as a custom cleaner for other members.
- C. **Custom Certified Conditioner** – A member who does or does not apply for field inspection services and who has adequate facilities for conditioning seed produced from inspected acres (by himself or other members) in preparation for sale in marketing channels.
- D. **Approved Seed Conditioner** – A member who may or may not apply for field inspection services, has adequate facilities for conditioning seed, and may purchase bulk uncleaned seed from inspected acres of a crop grown by another member for conditioning, tagging, and sale in marketing channels as a class of certified seed.
- E. **Bulk Retail Facility** – A member who has adequate facilities to maintain the genetic purity of bulk conditioned seed and purchases certified seed from another certification member for the purpose of retailing seed in the bulk.
- F. **Contract** – A member who only produces seed under the direction of either a Grower, Grower-Conditioner, Certified Custom Conditioner, or Approved Seed Conditioner.
- G. **Associate** – Any other person, partnership, corporation, or other business entity who markets seed but does not produce or condition seed within the state or one who provides support services for the production, conditioning, or marketing of seed and/or is interested in furthering the goals of the NCIA may become a non-voting member.
- H. **Service** – A member who utilizes the services of NCIA that do not pertain to certification (QA, IP, lab, auditing). They do not condition, produce, or sell Nebraska Certified seed.

10. Land Requirements for Certification of Identity and Quality

- A. When a field or portion of a field is to be inspected for certification of identity and quality, the area to be inspected must be clearly defined by a boundary at least five feet in width which is mowed, uncropped, or planted to some other crop not of the same type. See specific crop kind standards for further details or modifying statements.
- B. A field to be eligible for the production of certifiable seed must not have been planted to another variety of the same kind at least during the previous growing season. This is except when a seed crop of the same variety has been grown from seed of an equal or higher class and the field was approved for certification.

11. Applying for Field Inspection

- A. A Declaration of Certifiable Seed Fields (FORM A) must be submitted for all fields eligible for certified seed production. The NCIA will verify the information on the FORM A and a FORM B will be sent back to producers. The FORM B must be reviewed and returned to the NCIA with appropriate fees by the due date. The instructions for completing the FORM B, fee schedule, verifying seed source, and due dates are provided with the FORM B.

The NCIA office will supply forms and instructions for making application for field inspection of all eligible fields to current members, Foundation seed purchasers, and all others who request them.

B. Applicant's Responsibilities

- 1) The applicant's signature on a FORM B is a guarantee of the accuracy of all required information. Also by signing a FORM B, the applicant accepts responsibility for:
 - a) Seeing that all equipment involved with planting, harvesting, or other seed handling is adequately cleaned to maintain genetic purity of the seed.
 - b) Making certain that the seed verified as the eligible seed source on the application was the seed planted on the field described on the application.
 - c) Maintaining the genetic purity and identity of the seed from harvest to the time it leaves the applicant's possession. Also, maintaining a complete record identifying all lots of seed from seeding through harvest until disposition is completed (see Section 14).
 - d) Submitting a complete report of seed production and disposition on each seedlot and paying the applicable assessment on seed produced.

C. Establishing Seed Source

The NCIA is required to have complete verification of the source, class, and quantity (pounds or bushels) of Foundation or Registered seed used in establishing each field for the production of certifiable seed. In the case of protected or proprietary varieties, this includes a statement from the owner of the variety authorizing the applicant to reproduce seed for planting purposes.

- 1) Establish source and class of seed by submitting, with the FORM A, a Foundation or Registered label from the containers of the seed that was planted.
- 2) A grower planting his own Registered seed should list appropriate lot numbers on the application. Seed from a field which has passed field inspection but from which a seed sample has not been submitted for an official quality analysis will not be eligible for re-certification when planted the following year.
- 3) When a lot of seed is downgraded from the Registered class to the Certified class for any reason other than genetic factors, the lot may be recognized as the Registered class when used as planting stock by the original applicant.

D. Due Dates

Final applications for field inspection are due at the office of the Nebraska Crop Improvement Association on or before the following dates:

FORM A

- March 15: Winter small grains (wheat, barley, rye, triticale)
April 15: Spring small Grains (oats, barley, wheat)
May 15: Grasses (cool, warm, turf)
June 1: Dry edible beans, millet, sorghum
July 1: Soybeans

FORM B

May 15: All small grains (wheat, barley, oats, rye, triticale)
June 1: Grasses (cool, warm, turf)
June 10: Corn (corn does not have a FORM A)
July 1: Dry edible beans, millet, sorghum
August 15: Soybeans

Late Applications: The NCIA reserves the right to refuse a late Application for Field Inspection. If inspection can be arranged, appropriate late fees will be assessed.

Incomplete Applications: An application which lacks necessary information, adequate fees, or documentary evidence of eligibility of the seed planted will be returned to the applicant.

E. Field Inspection Fees

- 1) Field inspection fees are set at levels adequate to cover the cost of administering the program and providing needed field and record keeping services. The appropriate field inspection fees must be sent to the Nebraska Crop Improvement Association office along with the FORM B.
- 2) Refunds and Cancellations
 - a) The inspection fee, except for an administrative fee, will be refunded for Applications withdrawn before any of the fields applied for have been inspected. When only an individual field is withdrawn before inspection, the applicable fees will be refunded subject to the \$50 minimum application fee.
 - b) No refund will be made for FORM B's or fields withdrawn because either the field or seed is rejected during or after inspection.
 - c) The entire inspection fee will be refunded for fields declared ineligible by the NCIA before the field is inspected. An applicant may withdraw an application, field, or any portion of a field by notifying the NCIA before inspection.
- 3) Return Inspection

Any additional inspections, seed sampling, or travel required because the field did not meet minimum standards and reinspection requested by the applicant will be made at the expense of the applicant. In no case will the amount be less than \$50 per inspection.

12. Field Inspection – Varietal Purity

- A. An NCIA representative will make one or more inspections per field depending upon when the genetic purity and identity can best be determined. Genetic purity will be determined by use of an appropriate sequential sampling procedure.
- B. The applicant must rogue for off-type plants before inspection. Off-type plants must be removed completely to prevent contamination.
- C. All fields must meet the isolation and land requirements for the crop being certified. Each field must be in suitable condition to permit an adequate inspection to determine genetic purity and identity.
- D. A field inspection report will be given to the applicant after inspection.

13. Field Inspection–Roguing and Weed Control

- A. Every field for which inspection is requested must demonstrate proper seed production management. This includes evidence that reasonable precaution has been taken to eliminate contaminating crops and varieties and objectionable weeds.
- B. Nebraska Seed Law (revised 2000) classifies noxious weed seeds as follows:
 - 1) **Primary Noxious** – Nebraska law prohibits the sale of agricultural seed consisting of or containing primary noxious weed seeds, with no tolerance allowed.

Canada thistle (*Cirsium arvense*)
diffuse knapweed (*Centaurea diffusa*)
leafy spurge (*Euphorbia esula*)

musk thistle (*Carduus nutans*)
plumeless thistle (*Carduus acanthoides*)
purple loosestrife (*Lythrum salicaria*)
saltcedar (*Tamarix ramosissima* or *pariflora*)
spotted knapweed (*Centaurea maculosa*)

- 2) **Prohibited Noxious** – Nebraska law prohibits the sale of agricultural seed consisting of or containing prohibited noxious weed seeds, subject to recognized tolerances.

field bindweed (*Convolvulus arvensis*)
hoary cress (*Cardaria draba*)
johnsongrass (*Sorghum halepense*)
puncturevine (*Tribulus terrestris*)
Russian knapweed (*Centaurea repens*)
Scotch thistle (*Onopordum acanthium*)
serrated tussock (*Nassella trichotoma*)
skeletonleaf bursage (*Ambrosia tomentosa*)
wild morning-glory (*Ipomoea purpurea*)
woollyleaf bursage (*Ambrosia tomentosa*)

The presence of Primary or Prohibited Noxious weeds bearing seeds in any field at inspection (except hybrid corn) will disqualify it for seed purposes. If the top growth of such weeds has been completely destroyed at the time of field inspection, the field may be approved.

- 3) **Restricted Noxious** – Nebraska law prohibits the sale of agricultural seed containing more than 0.5% by weight of restricted noxious weed seed.

charlock (*Brassica arvensis*)
dock (*Rumex* spp.)
dock, curled (*Rumex crispus*)
dock, smoothleaf (*Rumex altissimus*)
dock, winged (*Rumex venosus*)
dodder (*Cuscuta* spp.)
horsenettle (*Solanum carolinense*)
mustard, black (*Brassica nigra*)
mustard, Indian (*Brassica juncea*)
mustard, wild (*Brassica* spp.)
pennycress (*Thlaspi arvense*)
quackgrass (*Elytrigia repens*)
rape, bird (*Brassica campestris*)
sorrel, red (*Rumex acetosella*)

Fields which are heavily infested with seed bearing Restricted Noxious, objectionable, or other troublesome weeds may be rejected for seed purposes.

14. Maintaining Identity of Seed

Applicants and seed conditioners must have and maintain a complete set of field identification and storage bin labeling records. These records must accurately identify all fields and lots of seed throughout production, conditioning, and marketing until disposition is completed.

- A. These records must be made available to the NCIA office on request.
- B. All bins containing bulk lots of certifiable seed must be clearly identified by the variety of seed and a bin number or lot number.
- C. As part of the complete record, it is the responsibility of the seller to obtain and keep a representative sample of each lot of seed as it will be offered for sale. Samples should be taken from certifiable seedlots as well as seedlots which have met all certification requirements.

15. Transfers of Certifiable Seed

Field Corn:

A bulk transfer of seed occurs when seed that has not completed certification is moved from one location to another location. This seed is eligible for certification but the applicant (grower) has not completed the steps necessary to have final certification approved. This seed would be transferred to the new location by means of completing the **Transfer of Seed Pending Certification Certificate**. Certification would be completed at the new location. **This applies only to corn.**

Other Crops:

Seed which has completed the certification process and has been assigned a lot number by NCIA and is in the bulk would be sold to the end user utilizing an approved **Bulk Sale Certificate**.

Bulk seed which has not completed certification but is being sold to an Approved Conditioner for completing certification would also be sold using the **Bulk Sale Certificate**. The seller will check the box on the certificate indicating this is a TRANSFER and draw an X through the sections of the form which are applicable to the analysis of cleaned seed.

Varieties released with a non-sellable Registered class are ineligible to be transferred from the original applicant to an Approved Seed Conditioner unless downgraded to the Certified class.

- A. Prior to the delivery of seed, the conditioner must complete an official Bulk Seed Transfer for corn or a Bulk Sales form for other crops. These forms are available upon request from the NCIA office.
- B. Upon delivery of seed, the conditioner must give a copy of the completed form to the seller, keep one for the conditioner's records, and send a copy to the NCIA office. It is strongly suggested, at this time, the conditioner take a representative sample of the seed.
- C. The conditioner must receive and store the uncleaned seed, condition it, and submit a representative sample of the seed lot to the NCIA for lab analysis.
- D. The conditioner is responsible for the proper labeling of the certified seed lot.

16. Conditioning of all Classes of Certified Seed

- A. All classes of certified seed must be conditioned by an approved facility.
 1. **Waiver** - In the event no approved facility is available within 50 miles of the applicant's location, a request for a one-time waiver to use unapproved facilities must be made to the NCIA office before any certifiable seed is conditioned.
- B. The equipment and facilities of each Grower-Conditioner, Custom Certified Conditioner, and Approved Seed Conditioner will be subject to inspection and approval.
- C. The following requirements must be met by all conditioners of any class of certified seed.
 - 1) Facilities must be available to perform conditioning without introducing mixtures.
 - 2) Rye or Triticale cannot be conditioned through the same conditioning line as wheat.
 - 3) Identity of the seed must be maintained at all times.
 - 4) Records of all operations relating to certification must be complete and adequate to account for all incoming seed and final disposition of seed.
 - 5) Conditioners will permit inspection by the certifying agency of all records pertaining to certified seed.
 - 6) Seed lots of the same variety and class may be blended and the class retained. If lots of different classes are blended, the lower class will be applied to the blend.

17. Blends and Mixtures

The term blend or blending refers to the process of commingling two or more lots of seed to form one seedlot of uniform quality.

- A. Different lots of certified seed of the same crop variety produced by one or more growers may be blended provided:
 - 1) A blend data sheet must be supplied to the NCIA identifying the lots to be used, the analysis of each lot, and the pounds to be used from each lot. After blending, any changes must be reported to the NCIA.
 - 2) Each individual lot to be eligible for blending must be from approved fields and should not exceed the following seed standards:
 - a) Inert (maximum) = 2 x amount allowed in certification standards
 - b) Other Crop (maximum) = 4 x amount allowed in certification standards
 - c) Weeds (maximum) = 2 x amount allowed in certification standards.
- B. Lots of Certified seed of different varieties may be blended/mixed provided:
 - 1) Only Approved Seed Conditioners may blend/mix varieties to be sold as Certified.
 - 2) Permission to use a protected variety or private variety in a blend must be obtained from the breeder or owner of that variety. This evidence must be submitted by the blender to the certifying agency.
 - 3) Each component of a blend/mixture is a class of certified seed.
 - 4) The Certified Seed tag carries:
 - a) Name of the blend/mix and crop kind.
 - b) Lot number
 - c) Variety and kind of each component.
 - d) Percentage by weight of each component.
 - e) Percentage of germ of each component.
 - f) A representative sample of the blend/mixture is submitted to the NCIA laboratory for complete analysis.

18. Seed Sampling and Testing

- A. Before the seed is sold, a conditioned representative sample of at least 1000 grams (2.25 pounds) of each seed lot must be submitted to the NCIA Lab to determine purity and germination. The submitted sample must represent the quality of the seed lot as it will be offered for sale.

B. Sampling Frequency Table

# bags in lot	7	10	23	50	100	200	300	400
# bags to sample	6	6	7	10	15	25	30	30

For lots of more than six (6) bags, sample five (5) bags plus at least 10% of the number of bags in the lot. Round numbers with decimals to the nearest whole number. Regardless of the size of the lot, it is not necessary to sample more than 30 bags. For purposes of determining sampling frequency, utilize 50 pounds as the bag size in all cases.

If the seed is in bulk, take at least as many cores or handfuls as if the same quantity of seed were in 50 lb. bags. Take the cores or handfuls from well distributed points throughout the bulk.

- C. Sampling during conditioning
 - 1. Automatic mechanical devices may be used to continually or intermittently draw a representative sample as the seed lot is conditioned, or
 - 2. Portions of the conditioned seed may be drawn intermittently by hand as seed is conditioned to form a composite sample that is representative of the seed lot.
- D. When submitting seed samples for lab analysis, the sample containers must be completely identified including variety, seed class, applicant's name, tests to be performed, and other information as requested by the NCIA.
- E. All seed will be tested in accordance with the procedures prescribed by the most recent edition of "Rules for Testing Seeds" issued by the Association of Official Seed Analysts or other applicable testing methods as requested.

- F. Lot numbers – The NCIA will assign a lot number for identification purposes to each seed lot which meets certification standards.
- 1) The NCIA reserves the right to establish the maximum size of a seed lot. It is recommended that seed of the same variety harvested from different fields be maintained as separate lots.
 - 2) Registered seed may be downgraded to the Certified class at the discretion of the applicant. A different lot number should be assigned to distinguish between seed classes.

19. Bagged Seed Sales

- A. All Foundation seed must be sold in new bags and have an official certification label properly affixed to each bag. Registered and Certified seed, when bagged, must be sold in new bags and have an official certification label affixed to each bag.
- B. Bags for seed may be plain or imprinted with the NCIA logo. A member may use his own trademark or logo on the bag.

NOTE: Bags imprinted with the NCIA logo may be used only with Foundation, Registered, or Certified seed. Re-use of bags is not permitted.

20. Labeling Bagged Certified Seed

A seed lot will **not** be recognized as certified seed if it is received by the seed consumer without official certification labels as follows:

Certification Labels

- A. All classes of certified seed offered for sale in bags must have an official certification label properly affixed (attached in a manner that prevents removal and re-attachment without tampering being obvious) to **each** bag.
- B. All official seed certification labels must confirm to the color, size, and other specifications published in the current certification handbook of the Association of Official Seed Certifying Agencies.
- C. The official certification label must clearly identify the certifying agency, variety, kind, seed class, and lot number. Certification labels can be obtained from the NCIA office after a representative sample has met or exceeded seed certification standards for that particular crop.
- D. Official seed certification labels must be positioned on the face side of the bag.
- E. Unused labels must be destroyed. Un-attached certification labels **can not** be mailed or handed from the seed seller to the seed consumer.
- F. Nebraska Seed Law prohibits sale of seed with expired germination tests. See current Nebraska State Seed Law for specifics for each crop. The State Seed Laws are available from the Nebraska Department of Agriculture at 402-471-2341.

21. Handling Certified Seed in Bulk

An applicant may sell Certified class seed in the bulk to the consumer or to another certification member except Associate members for purposes of resale. A maximum of two physical movements of the certified seed in the bulk is permitted.

Crop varieties with a sellable Registered class may be sold in the bulk as Registered class seed only to other certified seed producers only for the purpose of re-certification. If Registered class seed is sold for any other purpose it must be downgraded to the certified class.

All varieties released with a non-saleable Registered class are ineligible to be sold bulk unless downgraded to the certified class. All seed downgraded to the certified class either by the original applicant or for genetic contamination as determined by field or laboratory inspection is **ineligible** for re-certification.

The procedures for handling bulk seed will apply when seed is sold in a container (regardless of size) which cannot be sealed.

All field and seed standards applying to bagged seed shall also apply to classes of bulk certified seed with the exception of bag labeling. In addition, the following requirements must be complied with:

- A. An authorized Nebraska Bulk Sales Certificate must be completed for each sale. Certificates can be requested from the NCIA office.

- 1) At the time of purchase, each buyer must be given a copy of the official Bulk Sales Certificate completely and properly filled out and signed by the seller and buyer.
 - 2) The delivery of bulk seed must be made from the seller's place of business.
- B. Registered seed may be downgraded for sale as bulk Certified class at the discretion of the applicant.
- C. Due to the typically unprotected state of bulk seed, the buyer of bulk seed will be fully responsible for maintaining the purity of that seed at all times after it has been loaded into his vehicle. Bulk seed may not be returned to the seller for resale as certified seed.

22. Sub-Standard Seed in Emergency Situations

Under certain circumstances, seed which has failed to meet the minimum standards for certification, other than genetic purity, may be approved in accordance with Section 7. The factor(s) causing the sub-standard classification must be clearly stated on the certification labels attached to such seed.

23. Complying with Federal and State Laws

Responsibility for compliance with seed law labeling requirements and for any obligations arising from the sale or shipment of seed which has been certified rests with the seller or subsequent handler making the sale or shipment.

24. Seed Production and Disposition Report

- A. An applicant must submit a complete report on the production and final distribution of seed harvested from inspected fields. Such reports must be made on forms furnished by the NCIA.
- B. Assessment of Seed Production
- 1) An applicant (with the exception of hybrid corn) will remit to the NCIA at the end of the sales season, a predetermined assessment on each unit of seed produced.
- This fee must be paid on ALL SEED SOLD (certified or non certified) AND REPLANTED from inspected fields.**
- 2) The original applicant is responsible for full payment of applicable production assessments.
- C. Production reports and applicable assessments are due on the following dates.
- 1) Oats, spring wheat, spring barley, alfalfa, clover, and crownvetch—August 1 (year following production)
 - 2) Soybeans, dry edible beans, millets, amaranth, sudan, and sorghums—September 1 (year following production)
 - 3) Winter wheat, rye, triticale, and winter barley—December 1 (year of production)
 - 4) All grasses—December 1 (year following production)
- D. Late Reports—The NCIA will assess a late fee and reserves the right to suspend an applicant's eligibility for participation in the seed certification program and use of any NCIA services if production reports and applicable assessments have not been received within 15 days of the established due dates.

25. Carryover Seed

The production report must state the amount of seed being carried over to the next season from each seed lot. An updated report on each carryover seedlot will be required each subsequent year until disposition of the lot is complete.

- A. Certifiable seed carried over in bulk or in unlabeled bags must be conditioned, tested, and labeled in accordance with certification procedures before being sold as a class of certified seed.
- B. All certified seed carried over in bulk or in bags labeled with certification tags must be resampled and tested to determine eligibility for sale under state and federal seed laws.

26. Interagency Certification

Interagency certification is the participation of two or more official certifying agencies in performing the services required to certify quality of the same lot or lots of seed. The methods and standards employed in each step of the interagency certification process are those used when certification of identity and quality isn't completed by a single agency.

- A. The certifying agency issuing the interagency tags will require the seed on which the tags are used to meet standards at least equal to the minimum genetic standards for the seed in question, as specified in the Federal Seed Act Rules and Regulations, and at least equal to the minimum quality standards given in the AOSCA Certification Handbook.
- B. Seed to be recognized for interagency certification must be received in containers carrying official certification labels. If for further conditioning and final certification, evidence of its eligibility from the official certifying agency in the state of origin, together with the following information, must be supplied.
 - 1) Variety and kind.
 - 2) Quantity of seed—pounds or bushels.
 - 3) Class of certified seed.
 - 4) Inspection or lot number traceable to the original applicant and to the records of the agency making the field inspection.
- C. A lot of seed which has passed field inspection or is completely certified by another official certification agency may be sold and/or moved into Nebraska in bulk for further conditioning and/or completion of certification provided:
 - 1) Prior arrangements for moving the seed are made with and approved by the cooperating certification agencies.
 - 2) An official Bulk Sales Certificate is filed by the original applicant to the NCIA.
- D. In addition to compliance with the regulations specified in these Standards, each label used in interagency certification must be serially numbered and clearly identify the certifying agencies involved, the variety, kind, and class of seed. Each bag of seed must have an official label attached in a manner that prevents removal and re-attachment without tampering being obvious.
- E. All expenses incurred for interagency certification will be paid by the applicant.

27. OECD Seed Certification Schemes

- A. Information regarding procedures for participating in OECD seed schemes is available from Nebraska Crop Improvement Association, which is the designed authority for OECD certification in Nebraska.
- B. The objective of the OECD Seed Schemes is to encourage the exchange of improved varieties among cooperating nations. Certain rules and principles are involved to maintain varietal identity and genetic purity.

ALFALFA

1. Land Requirements and Length of Stand Limitations

Land must have been free of all alfalfa for at least four years prior to seeding to produce Foundation, three years for Registered, one year for Certified. Length of stand limitations on a variety for both inside and outside its region of adaptation (AOSCA Genetic and Crop Standards) shall be specified by the originator or designee. Seed production outside the region of adaptation shall not exceed six years unless otherwise specified. Alfalfa fields not inspected for certification two or more years are ineligible for certification.

2. Field Inspection

At least one inspection will be made during the time the seed crop is in bloom and at such other times during the growing season as may be necessary to determine varietal purity or other quality factors. Each field shall be rogued prior to inspection to remove off-type plants and other legumes and weeds which produce seeds which are inseparable from alfalfa seed.

3. Field Standards

A. Foundation and Registered fields shall be isolated from other varieties or the same variety not meeting varietal purity requirements:

Class	Fields of Less than 5 Acres	Fields of More than 5 Acres
Foundation	900 feet	600 feet
Registered	450 feet	300 feet
Certified	165 feet ¹	165 feet ¹
¹ Isolation requirements for the Certified class are based on the size of the field and the percentage of the field within 165 feet of another variety of alfalfa. If less than 10 percent of the field is within the isolation zone then no isolation other than a separation is required. If more than 10 percent of the field is within the isolation zone, then that portion must not be harvested for certified seed. The isolation zone is that area calculated by multiplying the length of the common border with other alfalfa by the average width of the Certified field falling within the 165 foot isolation distance requirement. In those cases where a portion of the field does not meet isolation requirements, then a clear line of demarcation shall be established between the Certified and non-certified portions of the field. The isolation distance required between classes of the same variety shall be 10 feet regardless of class or size of fields.		

B. Varietal Purity and Other Quality Factors

Factors	Maximum permitted in each class		
	Foundation	Registered	Certified
Other varieties ¹	.1%(1:1000)	.25%(1:400)	1.0%(1:100)
Sweet clover	None	5 plants/acre	40 plants/acre
Primary and Prohibited noxious weeds or dodder	None	None	None
Other restricted noxious weeds	Lack of evidence of control of weed seed production. ²		
¹ Other varieties shall include plants that can be differentiated from the variety that is being inspected. Volunteer plants shall be cause for reclassification or rejection. ² Fields containing excessive (uncontrolled) amounts of restricted noxious weeds, as listed in the General Standards, shall be disqualified from certification.			

4. Seed Quality Standards

Quality Factors	Standards for Each Class		
	Foundation	Registered	Certified
Pure seed (min %)	99.25	99.25	99.25
Inert matter (max %)	0.75	0.75	0.75
Total other crops (max %)	0.20	0.35	1.0
Other varieties (max %)	0.10	0.25	1.0
Other kinds (max %)	0.10	0.10	0.50
Sweet clover (max seeds/lb)	None	45	90
Weed seed (max %)	0.10	0.20	0.50
Primary and Prohibited noxious and objectionable (max/seed/lb) ¹	None	None	None
Restricted noxious (max seed/lb) ¹	None	18	27
Germination and hard seed (min %)	80	80	80

¹ As listed in the General Standards. Objectionable weeds include dodder, dogbane, perennial sowthistle, quackgrass, and white top.

DRY EDIBLE BEANS

1. Seed Class Requirements

Certification shall be limited to the number of generations specified in the variety release statement for all varieties.

2. Land Requirements

- A. A field shall not have been planted for the production of any kind of field beans for at least two growing seasons.
- B. A field shall not have been planted for the production of any kind of potatoes, soybeans, sugar beets, or sunflowers for at least one growing season.
- C. A seed field inspected the previous year and in which bacterial blight is found to exceed field standards shall not be eligible as a production site for certifiable beans until it has been planted for at least two growing seasons to crops other than beans, potatoes, soybeans, sugar beets, or sunflowers.
- D. Cultural practices which encourage the spread of disease or may result in lower seed quality shall be strongly discouraged or prohibited in the production of certifiable seed.
- E. Sufficient tillage operations shall have been done to minimize trash and residue from previous crops.
- F. A minimum distance of 66 feet shall be maintained from any other dry edible beans. Any volunteer dry edible bean plants within the 66 foot border shall be removed.
- G. Irrigation water reclaimed from other dry edible bean fields should not be utilized for irrigation of the certified seed production.

3. Field Inspection Requirements

Each field shall be rogued to remove off-type plants, other crops, and weeds, the seeds which cannot be separated thoroughly from dry edible beans during conditioning.

Each field shall be inspected by a representative of the Association at least once during the mid-bloom to late pod-fill stages when varietal mixtures, foliar diseases, and other quality factors can best be determined. A second inspection shall be made after the beans are lifted but prior to harvest to determine presence of any bacterial blight or other factors which reduce quality. Additional inspections may be required at the discretion of the certifying agency.

4. Field Standards

Varietal Purity and Other Quality Factors

Factors	Maximum Permitted (Ratio of Plants)		
	Foundation	Registered	Certified
Other varieties	.05%(1:2000)	.1% (1:1000)	.2%(1:500)
Other crops (inseparable)	None	.05%(1:2000)	.1%(1:1000)
Primary and Prohibited noxious weeds	None	None	None
Black nightshade (objectionable)	None	None	None
Diseases (seed borne)			
Bacterial blights ¹	None	None	.1%(1:1000) ²
Wilt	None	.01%(1:10,000)	.02%(1:5000)
Anthrachnose	None	.01%(1:10,000)	.02%(1:5000)
Bean common mosaic virus	None	.5%(1:200)	1.0%(1:100)
¹ Bacterial blights include common blight, halo blight, brown spot, and bacterial wilt.			

5. Harvesting, Handling, and Conditioning Requirements

The harvesting, handling, storing, and conditioning of certifiable seed shall be performed in such a manner as to prevent mechanical mixture or damage to seed and to maintain identity of each seed lot. Such procedures shall include the following:

- A. The combine shall be thoroughly cleaned before harvesting certifiable beans to avoid mechanical mixtures.
- B. All certifiable seed shall be kept properly identified as it is moved from the field to storage and conditioning. Use new or cleaned boxes (with covers to prevent mixture) or resealable bulk bags for seed storage. Each container shall be properly labeled as to variety and identity.
- C. All certified seed must be sold with seed treatment applied which contains an antibiotic such as Streptomycin.

6. Seed Sampling and Testing

A cleaned representative sample of at least 10,000 seeds from each inspected field must be submitted to the Nebraska Crop Improvement office for disease testing for internal seed borne infections.

An additional two (2) pound sample must be submitted to the Nebraska Crop Improvement Association Seed Laboratory for purity and germination testing.

7. Seed Quality Standards

Factors	Standards for Each Class		
	Foundation	Registered	Certified
Pure seed (min %)	99.0	98.0	98.0
Inert matter ¹ (max %)	1.0	2.0	2.0
Total weed seed (max)	None	None	0.1
Primary and Prohibited noxious (max)	None	None	None
Restricted noxious (max/lb)	1	1	1
Nightshades and objectionable (max)	None	None	None
Total other crop seeds (max %)	None	0.1	0.2
Other varieties (max %)	None	0.1	0.2
Other kinds of crops (max %)	None	0.05	0.1
Germination (min %)	85	85	85
Seedborne Disease - Bacterial Blight	None	None	None
¹ Inert matter cannot consist of more than 0.5% foreign material (soil or rock).			

HYBRID CORN

1. Seed Class Requirements

- A. Only the Certified class is recognized in hybrid corn seed.
- B. Hybrid corn seed shall mean seed to be planted for the production of feed or for any use other than seed increase. It may be any one of the following.
 - 1) Single cross – the first generation of a cross between two inbred lines or an inbred line and a foundation backcross or of two foundation backcrosses.
 - 2) Double cross – the first generation of a cross between two foundation single crosses.
 - 3) Three-way cross – the first generation of a cross between a foundation single cross and an inbred line or foundation backcross.
 - 4) Topcross – the first generation of a cross between an open-pollinated variety and an inbred line or a foundation backcross or a foundation single cross.
- C. Eligibility of seedstocks – All seedstocks used as pollen and seed parents in the production of certifiable hybrid seed corn shall be of the certified Foundation class or whose source assures their identity and are approved by the certifying agency.

Evidence of eligibility for each seedlot used in the production field shall be an official certified Foundation quality tag or label obtained from a bag containing such seed or other approved documents described in the General Standards.
- D. A male sterile seed parent can be used to produce Certified hybrid corn seed by either of two methods.
 - 1) Hybrid seed produced on the fertile seed parent shall be mixed with the hybrid seed produced on sterile seed parent, of the same pedigree, either by blending in the field at harvest or by size at conditioning time. The ratio of the male sterile parent seed to fertile parent seed shall not exceed 2:1.
 - 2) The pollen parent shall involve pollen restoring line or lines so that not less than one-third of the plants grown from hybrid corn seed resulting from these crossing will produce pollen which appears to be normal in quantity and viability.

2. Land Requirements

Seed fields shall not be planted on land that has grown corn of another color or endosperm type during the preceding crop season.

3. Field Inspection

The current guidelines for field inspection procedures are available upon request from the Association office.

- A. Before pollination, each separate field shall be inspected by a representative of the Association at least once for purity of plant type and isolation from contaminating sources of pollen.
- B. During pollination, each separate field shall be inspected by a representative of the Association at least once every 48 hours except as detailed under the OECD program.

4. Field Standards

- A. Unit of certification
 - 1) The entire acreage of a specific pedigree in an isolation shall be inspected for certification. The maximum distance a seed parent row may be from a pollen parent row within a crossing block is 15 feet.
 - 2) Portions of an isolation may be considered as separate fields depending upon such factors as maturity differences, boundaries, waterways, roads, etc. (if separate field inspection reports are necessary).
 - 3) More than one hybrid may be produced in an isolation provided the same pollinator is used for all hybrids. The areas occupied by each different crossing block shall be designated in a manner that meets with the approval of the Association.

B. Isolation from contaminating pollen

- 1) A specific hybrid shall be located so that the seed parent is not less than 660 feet from corn of a different color or texture. For dent corn, this includes sweet, pop, white, or other colored corn. For hybrid seed production fields of dent sterile popcorn, no isolation from yellow dent field corn is required. Sweet corn plots of ¼ acre or less may be isolated from hybrid seed productions fields not less than 330 feet and must have at least 10 pollen parent border rows that are providing an isolation pollen buffer.
- 2) A specific hybrid shall be located so that the seed parent is not less than 660 feet from other corn of the same color or texture. This distance may be modified by the planting of pollen parent rows as an isolation buffer and depending on the size of the crossing field according to the following table.

Min. Distance from Other Corn to the First Seed Parent Plant	Field Size	
	1 to 19 Acres	20 Acres or More
Feet	Minimum Number of Border Rows	Minimum Number of Border Rows
660	0	0
570	4	2
490	6	2
410	8	4
330	10	6
270	12	8
210	14	10
150	16	12
90	18	14
<90	24 ¹	16 ²

¹ minimum of 60 foot including border rows

² minimum of 40 foot including border rows

3) Border (buffer) row requirements

- a) Because of the difficulty in establishing and maintaining an acceptable stand for buffer purposes, the planting of at least double the minimum number of border rows shown in the Table is suggested.
- b) An adjacent hybrid crossing block(s) planted with the same eligible pollen parent may be used as an isolation buffer, provided it is inspected and meets all field requirements.
- c) Border rows shall be considered unacceptable if:
 - 1)) Pollen is not being shed simultaneously with silk emergence of the seed parent.
 - 2)) Pollen is not being shed as plentifully as in pollen parent rows of crossing blocks, for any reason, including:
 - a)) Below average stands
 - b)) Differential planting dates
 - c)) Border rows are more than 33 feet from the seed parent rows
 - d)) Border rows have been detasseled.
 - d) Natural barriers such as hills, trees, buildings, or similar objects are not acceptable in place of border rows.
- 4) Differential maturity dates are permitted for modifying isolation distance provided there are not receptive silks in the seed parent at the same time pollen is being shed in the contaminating field.
- 5) Corrections for improper isolation shall be made by the applicant by one of the following methods or its equivalent.
 - a) By completely destroying or by detasseling the necessary contaminating corn before silks appear in the seed parent in the field to be certified.
 - b) By disqualifying from certification and clearly marking the crossing clocks improperly isolated from contaminating corn, before the final field inspection.

C. Roguing Off-type and Volunteer Plants

- 1) Definitely off-type plants in a parent line planted for the production of single cross or three-way cross hybrid corn seed to be used for grain or forage production must be completely destroyed so that suckers will not develop.

Plants showing definite hybrid vigor or a definitely different type from the parent being inspected shall be classified as definitely off-type.

- 2) An isolation in which more than 0.1% (1 per 1000) of definitely off-type plants, in the pollen parent or seed parent, have shed pollen at a time when more than 5% of the seed parent plants have apparently receptive silks shall be disqualified for certification.
- 3) An isolation in which more than 0.1% (1 per 1000) of definitely off-type plants are present in the seed parent at the final inspection shall be disqualified for certification.

D. Detasseling and pollen control

The following requirements shall apply when 5% or more of the seed parent plants within an isolation have receptive silks.

- 1) A field shall be disqualified from certification if at any one inspection more than 1% of the seed parent plants have shed pollen or if the total number having shed pollen for any three inspections on different dates exceeds 2%.
- 2) When more than one hybrid combination is being grown in the same isolation and the seed parent of one or more of the hybrids is shedding pollen in excess of 1% all seed parents having 5% or more apparently receptive silks at the time will be disqualified unless adequately isolated from the shedding seed parent.
- 3) Any tassel or portion of tassel shall be counted as shedding pollen when two inches or more of the central stem or the side branches or a combination of the two have the anthers extended from the glumes.
- 4) The detasseling (cutting or pulling) of cytoplasmic male sterile seed parent is permitted.

5. Seed Sampling and Testing

A. Post control genetic purity testing. The final certification of seedlots, as determined by the Association, may be contingent upon determination of percent hybridization using the following methods.

- 1) Biochemical methods which determine the percent hybridization by identifying selfs within the seedlot by grade size.
- 2) Field growouts of seed from production fields or isolations by grade size.

B. A conditioned representative sample of at least two pounds from each certifiable grade size within a seedlot shall be submitted to the Association laboratory for determination of germination and purity for certification and labeling purposes.

6. Seed Quality Standards

A. Genetic

Quality Factors	Certified Seed Class
Other varieties of a different color or texture (max %)	0.5
Off-textured kernels in opaque 2, flowery 2 or waxy hybrids (max %)	1.0

B. Mechanical

Quality Factors	Certified Seed Class
Pure seed (min %)	99.0
TOTAL other crop seeds-including other varieties (max %)	0.5
TOTAL weed seed (max)	None
TOTAL inert matter (max %)	1.0
Germination (min %)	90
Moisture (max %)	14.0

FOUNDATION SINGLE CROSS CORN¹

1. Seed Class Requirements

- A. Only the certified Foundation class is recognized for seed of such single crosses, backcrosses, and male sterile inbreds produced according to these Standards.
- B. Foundation single cross corn seed shall mean seed to be planted for the production of certified quality hybrid corn seed. It shall consist of the first generation of a cross of any one of the following:
- 1) Two inbred lines
 - 2) An inbred line and a Foundation backcross
 - 3) Two Foundation backcrosses
- C. Foundation backcrosses shall be either of the following:
- 1) A **first generation Foundation backcross** is the first generation cross between a foundation single cross of related inbred lines and an inbred line which is the same as one of the inbreds in the Foundation single cross.
 - 2) A **second generation Foundation backcross** is made by using a first generation back cross as the seed parent; the pollen parent is an inbred line. The inbred line is the same as the inbred parent used in making the first generation back cross seed parent.
- D. Additional Requirements for **Male Sterile Lines**
- 1) A male sterile inbred line may be substituted for its fertile counterpart as one parent of a Foundation single cross provided:
 - a) The male sterile line has been backcrossed for not less than five generations to its fertile counterpart, and
 - b) The male sterile line is the same in other characteristics as its fertile counterpart.
 - 2) Male sterile inbred lines propagated by hand pollination shall be eligible for certification.
- E. Additional Requirements for **Pollen-Restoring Lines**
- A pollen-restoring line may be substituted for its non-restoring counterpart in a Foundation single cross, provided the pollen-restoring line is the same in other characteristics as its non-restoring counterpart.

2. Eligibility of Seedstocks

All seedstocks used as pollen and seed parents in the production of Foundation single cross and Foundation backcross corn seed shall be of the certified Foundation class or whose source assures their identity and are approved by the certifying agency.

Evidence of eligibility for each seedlot used within the isolation shall be an official certified Foundation quality tag or label obtained from a bag containing such seed, or other such approved documents described in the General Standards.

3. Land Requirements

Seed fields shall not be planted on land that has grown corn of another color or endosperm type during the preceding crop season.

4. Field Inspection

The current guidelines for field inspection procedures are available upon request from the Association. Each Foundation single cross within a separate field or isolation shall be inspected by a representative of the Association as follows:

¹ For the purpose of certification, the propagation of male sterile inbred lines shall be subject to these same requirements and standards.

A. Before pollination

At least one inspection for purity of plant type. Isolation distance from contaminating sources of pollen is also checked and recorded at this time.

B. During pollination

At least three inspections shall be made. Additional inspections may be required at the discretion of the certifying agency. Inspections shall be made without previous notice to the applicant.

5. Field Standards

A. Unit of Certification and Pollen Parent Requirements

- 1) All crossing blocks of a specific pedigree within an isolation shall be inspected for certification. The maximum distance a seed parent may be from a pollen parent within a crossing block is nine feet.
- 2) More than one Foundation single cross may be produced within an isolation provided the same pollen parent is used for all crosses. The areas occupied by each different single cross shall be designated in a manner that meets with the approval of the Association.
- 3) The minimum population of pollen parent plants shall be 2,000 plants per acre. Ineffective (immature or impaired) pollen parent plants will not be counted.
- 4) Each separate isolation shall contain not fewer than 400 pollen parent plants per acre (about 20%) that are actively shedding pollen when more than 25% of the seed parent silks are apparently receptive.

B. Isolation from Contaminating Pollen

- 1) A specific Foundation single cross shall be located so the seed parent is not less than **660** feet from any other corn, except pollen parent rows and other seed parents in the same isolated field.
- 2) Differential maturity dates are permitted for modifying the isolation distance for Foundation single crosses and male sterile inbred line increases provided there are no receptive silks in the seed parent at the same time pollen is being shed in the contaminating field.
- 3) Corrections for improper isolation shall be made by the applicant by one of the following methods or its equivalent.
 - a) By completely destroying or by detasseling the contaminating corn before it sheds pollen, or before silks appear in the seed parent being inspected, or
 - b) By completely destroying, before the final field inspection, the seed- producing plants which are improperly isolated from the contaminating corn.

C. Roguing Off-type and Volunteer Plants

- 1) Definitely off-type plants in either parent of a Foundation single cross shall be completely destroyed so that suckers will not develop. Any plants showing definite hybrid vigor or a definitely different type from the inbred being inspected shall be classified as definitely off-type.
- 2) Seed and Pollen Parents—An isolation in which more than 0.1% (1 per 1,000) of definitely off-type plants in either the pollen or seed parent have shed pollen, at a time when more than 5.0% of the seed parent plants have apparently receptive silks, will be disqualified for certification. (See below Section D.4., Pollen Control.)
- 3) Seed Parent—An isolation in which more than 0.1% (1 per 1,000) of definitely off-type plants are present in the seed parent at the final inspection will be disqualified for certification.

D. Detasseling and Pollen Control

The following requirements shall apply when 5% or more of the seed-parent plants within an isolation have receptive silks.

- 1) An isolation of a specific Foundation single cross shall be disqualified for certification if at one inspection more than .5% of the seed parent plants have shed or are shedding pollen or if the total number having shed pollen for any three inspections on different dates exceeds 1%.
- 2) When more than one Foundation single cross is being grown in the same isolation and the seed parent of one or more of them is shedding pollen in excess of 0.1% (1:1000), all seed parents within the isolation have 5% or more apparently receptive silks at this time will be disqualified unless adequately isolated from the shedding seed parent.

- 3) Male Sterile Inbreds—Any plant shedding pollen in male sterile rows shall be completely destroyed by the applicant to eliminate the possibility of its producing seed. Detasseling (cutting or pulling) shall be acceptable to control plants shedding pollen when the pollen parent is a fertility-restoring line.
- 4) Any tassel or portion of tassel shall be counted as shedding pollen when two inches or more of the central stem, or the side branches, or a combination of the two have the anthers extended from the glumes.

6. Seed Sampling and Testing

- A. A conditioned representative sample, of at least 1 MVK, from each certifiable grade size within a seedlot shall be submitted to the Association laboratory for determination of germination and genetic purity for certification and labeling purposes.

FOUNDATION INBRED CORN

1. Seed Class Requirements

- A. Only the certified Foundation class is recognized for seed of eligible inbreds produced according to these Standards. For the purpose of certification, the propagation of male sterile inbred lines shall be subject to the same requirements and standards as Foundation Single Crosses.
- B. Foundation inbred corn seed shall mean seed to be planted for the production of certified Foundation single cross seed or Certified quality hybrid corn seed.
- C. An inbred line to be considered for certification shall be a relatively true breeding strain resulting from controlled self-fertilization, or back-crossing to a recurrent parent with selection or its equivalent.

An inbred line to be considered eligible for certification shall be required to meet the provisions stated in the General Standards.

D. Addition of Specific Genetic Factors to a Line

- 1) When a specific genetic factor(s) is added to an inbred line, the line shall be backcrossed to its recurrent parent at least five generations. The line shall be homozygous for the specific genetic factor(s) except for the pollen restoration factor(s) and the genic male sterile maintainer line.
 - 2) For a recovered pollen restorer inbred line, selection shall be relative to a specific cytoplasmic male sterile source.
 - 3) Proof of the genetic nature of a recovered line shall be supplied by the originator.
 - 4) A genic male sterile maintainer line, consisting of duplicate-deficient and male-steriles in an approximate 1:1 ratio, shall be no more than two generations removed from Breeder seed. The maintainer shall be designated according to generation as:
 - a) **Breeder Seed**—The hand pollinated selfed seed from a known duplicate-deficient plant heterozygous at a particular male sterile locus.
 - b) **Foundation I Seed**—The produce of random-mating among fertile plants arising from Breeder seed.
 - c) **Foundation II Seed**—The product of random-mating among fertile plants arising from Foundation I seed.
 - 5) A genic male sterile line shall be a strain homozygous for a particular male sterile recessive allele.
 - 6) The genic male sterile lines shall be identified as to the recessive genes they carry (e.g., B37 ms-1, N26ms-10.) The maintainer lines shall be identified not only for the male sterile gene for which it is heterozygous, but for the specific translocation from which it was derived (e.g., B37 Mt-1 ms-1, N28 Mt-1 ms-10.)
- E. Inbred lines increased by hand pollination shall be eligible for certification.
 - F. An inbred used as a pollinator in a Foundation single cross isolation may be certified, provided all the seed parents within the isolation are inspected and meet all field requirements for certification.

2. Eligibility of Seedstocks

All seedstocks used in the production of Foundation inbred corn seed shall be of the certified Foundation class or whose source assures their identity and are approved by the certifying agency.

Evidence of eligibility for each seedlot used with the inbred isolation shall be an official certified Foundation quality tag or label obtained from a bag containing such seed, or other such approved documents described in the General Standards.

3. Land Requirements

Seed fields shall not be planted on land that has grown corn of another color or endosperm type during the preceding crop season.

4. Field Inspection

The current guidelines for field inspection procedures are available upon request from the Association. Each Foundation inbred within a separate field or isolation shall be inspected by a representative of the Association as follows:

A. Before pollination

At least one inspection shall be made for purity of plant type. Isolation distance from contaminating sources of pollen is also checked and recorded at this time.

B. During pollination

At least three inspections shall be made. Additional inspections may be required at the discretion of the certifying agency. Inspections shall be made without previous notice to the applicant.

5. Field Standards

A. Unit of Certification

All rows of a specific inbred within an isolation shall be inspected for certification. At the discretion of the applicant and with the approval of the Association, only a specific portion of an inspected isolation may be approved for certification of seed quality, provided the remainder is harvested and maintained separately from the certifiable seed.

B. Isolation from Contaminating Pollen

- 1) A specific Foundation inbred shall be so located that it is not less than **660** feet from any other corn of the same color or texture, or not less than **1320** feet from corn of other color or texture, except when the inbred is grown as a pollinator in a Foundation single cross production field. In this case, all seed parent(s) in the same isolation shall be inspected and meet all field requirements for certification.
 - a) Differential maturity dates are permitted for modifying isolation distances provided there are no receptive silks in the seed parent at the same time pollen is being shed in the contaminating field.
 - b) Foundation inbred production fields of dent sterile popcorn need not be isolated from yellow dent field corn.
 - c) No isolation is required for the production of hand-pollinated seed.
- 2) Corrections for improper isolation shall be made by the applicant by one of the following methods or its equivalent:
 - a) By completely destroying or by detasseling the contaminating corn before it sheds pollen or before silks appear in the inbred being inspected.
 - b) By completely destroying, before the final field inspection, the plants which are improperly isolated from the contaminating corn.

C. Roguing Off-type and Volunteer Plants

- 1) Definitely off-type plants shall be completely destroyed so that suckers will not develop. Any plants showing definite hybrid vigor or a definitely different type from the inbred being inspected shall be classified as definitely off-type.
- 2) An isolation in which more than 0.1% (1:1000) of definitely off-type plants have shed pollen, at the same time more than 5.0% of the plants have apparently receptive silks, shall be disqualified for certification.
- 3) Any tassel and portions of tassel of off-type plants shall be counted as shedding pollen when two inches or more of the central stem or the side branches or a combination of the two have the anthers extended from the glumes.

6. Seed Sampling and Testing

A conditioned representative sample, of at least 1 MVK, from each certifiable grade size within a seedlot shall be submitted to the Association laboratory for determination of germination and genetic purity for certification and labeling purposes.

GRASS

1. Seed Class Requirements

- A. Limitations on the length (age) of stand or the classes of certified seed through which a given variety may be multiplied for both inside and outside its region of adaptation or in regard to other production practices affecting genetic or mechanical purity or other seed quality factors shall be those specified by the originator of the variety or designee.
- B. All classes of certified seed may be produced from vegetatively propagated planting stock in accordance with the procedure specified by the originator; but in such cases, the Standards for vegetatively propagated grasses shall apply.
- C. Application to establish eligibility of a field and seed source shall be made within one year of seeding.

2. Land Requirements

- A. A field to be eligible for the production of Foundation seed shall not have grown or been seeded to the same or any objectionable species during the previous five years.
- B. A field to be eligible for the production of Registered seed (if permitted for the variety) shall not have grown or been seeded to the same or any objectionable species during the previous three years except when seeded with Foundation, Registered, or Certified seed of the same variety.
- C. A field to be eligible for the production of Certified seed shall not have grown or been seeded to the same or any objectionable species during the previous two years, except when seeded with Foundation, Registered, or Certified seed of the same variety.
- D. As an additional precaution, no amendments or materials which could be a source of contaminating seeds, such as certain animal wastes, shall be applied during the establishment and productive life of the stand.
- E. Any eligible field which has not been inspected for certification purposes for two or more consecutive growing seasons shall not be accepted for certification unless approved by the Association office.

3. Field Inspection

- A. As conditions require a seedling inspection shall be made to check for volunteer plants, isolation, potential weed problems, and other quality factors in production at the discretion of the certifying agency.
- B. After establishment, each eligible field shall be inspected each year certifiable seed is to be harvested. For most species and production sites, seed harvest will be possible generally no later than two years after seeding.
- C. Each field shall be inspected at least once after heading and prior to harvest when varietal purity, other grasses, objectionable weeds, and other quality factors can best be identified. Additional inspections may be required at the discretion of the certifying agency.

4. Field Standards

- A. Isolation requirements

Each field eligible for the production of Foundation, Registered, or Certified seed shall be isolated from any other strain of the same species or of compatible species or fields of the same strain which do not meet varietal purity requirements for certification and that are in bloom during the same time as follows.

Type of Reproduction	Border to be Removed ² (feet)	Minimum Isolation Distance ³ (feet)		
		Foundation	Registered	Certified
All cross pollinated species	0	900	300	165 ⁴
	9	600	225	100
	15	450	150	75
Strains at least 80% apomictic ¹	0	60	30	15
	9	30	15	15
Strains at least 95% apomictic and highly self-fertile species	0	60	30	5
	9	30	15	0

¹ Apomixis refers to a type of asexual production of seed, as in Kentucky bluegrass.
² When a border is required to be removed, such removal shall not occur until pollination of the crop to be certified is completed. The removal of border is permitted only if a field is more than five acres.
³ The distance required for isolation between different classes of seed of the same variety may be reduced to 25% of the distance shown in the above table.
⁴ No isolation distance is required for the certified seed class other than the boundary for mechanical separation for fields planted to cross-pollinated species and varieties less than 95% apomictic when there is an isolation zone of less than 10% of the entire field area. The isolation zone is calculated by multiplying the length of the common border with contaminating fields by the average width of the certifiable field found within the basic 165 feet isolation requirement. The use of the isolation zone is permitted only if a field is more than five acres.

B. Variety Purity and Other Quality Factors

Factor	Maximum Permitted (Ratio of Plants)		
	Foundation	Registered	Certified
Other varieties and off-types ¹	.05%(1:2000)	0.1%(1:1000)	0.3%(3:1000)
Other grasses (inseparable)	.05%(1:2000)	.05%(1:2000)	0.2%(1:500)
Primary and Prohibited noxious weeds	None	None	None
Restricted noxious and objectionable weeds ²	Lack of evidence of control of weed seed production.		

¹ Other varieties shall be considered to include plants that can be differentiated from the variety that is being grown for seed.
² A field containing an excessive (uncontrolled) population of weeds designated as Restricted or objectionable (for the species being grown), such as downy brome, hairy chess, cheat, docks, quackgrass, or giant foxtail shall be disqualified from certification.

5. Seed Sampling and Testing

- A. A conditioned representative sample, at least equal in size to the amount suggested below for the applicable grass species, shall be submitted to the Association laboratory for determination of germination and purity for certification and labeling purposes.
- B. Suggested representative sample sizes.
- 1) Non-chaffy seeded grass species
 - a) 1/8 pound – Kentucky bluegrass and sand lovegrass
 - b) 1/4 pound – Reed canarygrass, chewings fescue, and orchardgrass
 - c) 1/3 pound – Perennial ryegrass and tall fescue
 - d) 1/2 pound – Smooth brome, crested wheatgrass, switchgrass, and Russian wildrye
 - e) 1 pound – All wheatgrasses except crested
 - 2) Chaffy seeded grass species
 - a) 1/4 pound – Prairie sandreed
 - b) 1/2 pound – Big bluestem, little bluestem, indiagrass, and sideoats grama
 - c) 3/4 pound – Sand bluestem
 - 3) For other species not listed, contact the Association laboratory.

6. Seed Quality Standards for Non-chaffy Seeded Forage and Turf Grasses

Species/Seed Classes	Type of Reproduction ¹	% Pure Seed (min)	OTHER CROPS						WEEDS										
			% Total Other Crop Seed (max)		% Other Varieties (max)		% Other Kinds of Crops (max)		% Total Weed Seed (max)		Primary & Prohibited Noxious Weeds ²		Seed/lb of Restricted Noxious Weeds (max)		% Annual Brome ³ (max)		Total Viable ⁴		
			F/R	C	F/R	C	F/R	C	F/R	C	F/R	C	F/R	C	F/R	C		F/R	C
Bluegrass, Kentucky	A	95	0.1	2.0	0.1	2.0	0.1	0.5	0.1	0.5	5.0	0.10	0.3	None	45	90	0.15	0.3	80
Brome, Smooth	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	9	45	0.15	0.5	85
Buffalograss	C	95	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	5.0	0.25	0.5	None	0	6	0.15	0.5	70
Canarygrass, Reed	C	96	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	4.0	0.25	0.5	None	25	50	0.15	0.5	75
Fescue, Chewings	C	95	0.1	1.0	0.1	1.0	0.1	0.5	0.1	0.5	5.0	0.10	0.3	None	15	45	0.15	0.3	85
Red	C	98	0.1	1.0	0.1	1.0	0.1	0.5	0.1	0.5	2.0	0.10	0.3	None	9	45	0.15	0.3	85
Tall	C	98	0.1	1.0	0.1	1.0	0.1	0.5	0.1	0.5	2.0	0.10	0.3	None	9	45	0.15	0.3	85
Lovegrass, Sand	S	97	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	3.0	0.50	1.0	None	45	90	--	--	80
Needlegrass, Green	S	75	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	25.0	0.25	0.5	None	9	45	0.15	0.5	80
Orchardgrass	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	15	45	0.15	0.4	80
Ricegrass, Indian	C	85	0.5	1.0	0.1	2.0	0.1	0.25	0.1	0.25	15.0	0.25	0.5	None	9	45	0.15	0.4	80
Ryegrass, Perennial Turf-type	C	97	0.1	3.0	0.1	3.0	0.1	0.5	0.1	0.5	3.0	0.10	0.3	None	9	45	0.15	0.5	85
Switchgrass	C	95	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	5.0	0.50	1.0	None	15	45	--	--	75
Wheatgrass, Bluebunch	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	9	45	0.15	0.4	80
Crested/Fairway	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	9	45	0.15	0.4	80
Intermediate	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	9	45	0.15	0.4	80
Pubescent	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	9	45	0.15	0.4	80
Slender	S	85	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	15.0	0.25	0.5	None	9	45	0.15	0.4	80
Streambank	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	9	45	0.15	0.4	80
Tall	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	9	45	0.15	0.4	80
Thickspike ⁵	C	90	0.2	1.0	0.1	1.0	0.2 ⁵	1.0 ⁵	0.2 ⁵	1.0 ⁵	10.0	0.25	0.5	None	9	45	0.15	0.4	80
Western	C	85	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	15.0	0.25	0.5	None	9	45	0.15	0.4	70
Wildrye, Canada	S	85	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	15.0	0.25	0.5	None	9	45	0.15	0.4	70
Russian	C	90	0.2	1.0	0.1	1.0	0.2	1.0	0.2	1.0	10.0	0.25	0.5	None	9	45	0.15	0.4	80

¹ A=stems at least 80% apomictic, C=cross-pollinated species, S=highly self-fertile species.
² Prohibited noxious weeds in non-chaffy grasses shall include the species listed in the General Standards plus dodder, horse-nettle, perennial sowthistle, quackgrass, white top, and wild garlic.
³ Annual bromes include Japanese chess, hairy chess, downy brome, and cheat.
⁴ Includes dormant seed.
⁵ Foundation and Registered seed of thickspike wheatgrass may contain up to 1% slender wheatgrass, seed of the Certified class may contain up to 15% slender wheatgrass.

7. Seed Quality Standards for Chaffy Seeded Forage Grasses

Species and Seed Class	Type of Reproduction ¹	Pure Live Seed Index ² (min)	OTHER CROPS				WEEDS			
			% Total Other Crop Seeds (max)	% Other Varieties (max)	% Other Forage Grasses (max)	% Other Kinds of Crops (max)	% Total Weed Seed (max)	Seeds/lb of Primary and Prohibited Noxious Weeds (max)	Seeds/lb of Restricted Noxious Weeds (max)	
FOUNDATION:										
Bluestem, Big	C	25	0.2	0.1	0.1	0.1	0.1	1.0	None	9
Bluestem, Little	C	12	0.2	0.1	0.1	0.1	0.1	1.0	None	9
Bluestem, Sand	C	20	0.2	0.1	0.1	0.1	0.1	1.0	None	9
Foxtail, Creeping	C	60	0.2	0.1	0.1	0.1	0.1	1.0	None	9
Gramma, Blue	C	24	0.2	0.1	0.1	0.1	0.1	1.0	None	9
Gramma, Sideoats ³	C	30	0.2	0.1	0.1	0.1	0.1	1.0	None	9
Indiangrass	C	25	0.2	0.1	0.1	0.1	0.1	1.0	None	9
Prairie Sandreed	C	30	0.2	0.1	0.1	0.1	0.1	1.0	None	9
REGISTERED:										
Bluestem, Big	C	25	1.0	1.0	0.1	0.1	0.1	1.0	None	9
Bluestem, Little	C	12	1.0	1.0	0.1	0.1	0.1	1.0	None	9
Bluestem, Sand	C	20	1.0	1.0	0.1	0.1	0.1	1.0	None	9
Foxtail, Creeping	C	60	1.0	1.0	0.1	0.1	0.1	1.0	None	9
Gramma, Blue	C	24	1.0	1.0	0.1	0.1	0.1	1.0	None	9
Gramma, Sideoats ³	C	30	1.0	1.0	0.1	0.1	0.1	1.0	None	9
Indiangrass	C	25	1.0	1.0	0.1	0.1	0.1	1.0	None	9
Prairie Sandreed	C	30	1.0	1.0	0.1	0.1	0.1	1.0	None	9
CERTIFIED:										
Bluestem, Big	C	25	2.0	2.0	0.5	0.5	0.5	2.0	None	45
Bluestem, Little	C	12	2.0	2.0	0.5	0.5	0.5	2.0	None	45
Bluestem, Sand	C	20	2.0	2.0	0.5	0.5	0.5	2.0	None	45
Foxtail, Creeping	C	60	2.0	2.0	0.5	0.5	0.5	2.0	None	45
Gramma, Blue	C	24	2.0	2.0	0.5	0.5	0.5	2.0	None	45
Gramma, Sideoats ³	C	30	2.0	2.0	0.5	0.5	0.5	2.0	None	45
Indiangrass	C	25	2.0	2.0	0.5	0.5	0.5	2.0	None	45
Prairie Sandreed	C	30	2.0	2.0	0.5	0.5	0.5	2.0	None	45

¹ C=Cross-pollinated species.
² When pure live seed index (PLS) is used as a basis for certification, the analysis labels shall bear the percent germination, dormant seed, and purity or it equivalent as permitted by the current Nebraska Seed Law.
³ In determining germination for sideoats grama, the seed unit shall be defined as a spike containing one or caryopses.

8. Seed Quality Standards for Sod Quality Class Turfgrass Seeds

The seedlots of any grass variety eligible for this special sod quality program shall meet the specific certification standards as follows. A distinct Sod Quality tag shall be attached to the container along with the official certified seed tag on eligible seed meeting the added requirements of this high quality program.

Kind\Factor ¹	% Pure Seed (min)	Total Germ (min)	% Other Varieties (max)	% Other Crop (max)	Objectionable Other Crops ² (max)	% Weed Seed (max)	Objectionable Weeds ³ (max)
Kentucky Bluegrass ⁴	97	85	2.0	0.1	None	0.02	None
Chewings Fescue	98	90	1.0	0.1	None	0.02	None
Red Fescue	99	90	1.0	0.1	None	0.02	None
Tall Fescue	99	90	1.0	0.1	None	0.02	None
Perennial Ryegrass	98	90	1.0	0.1	None	0.02	None

¹ Seed analysis for the Sod Quality class shall be based on a sample 2.5 times the AOSA "Rules for Testing Seeds" noxious weed exam sample size. This sample to be examined for noxious weeds, weeds, and other crop seeds.

² Includes ryegrass, orchardgrass, timothy, bentgrass, big bluegrass, rough bluegrass, smooth brome, reed canarygrass, tall fescue, clovers, and meadow foxtail.

³ Includes the Primary and Prohibited Noxious seeds listed in the General Standards plus docks, chickweed, crabgrass, plantain, short-awn foxtail, black medic, annual bluegrass, velvetgrass, and rattail fescue.

⁴ A 10 gram sample will be examined for poa annua.

MILLET

(PROSO, FOXTAIL, AND OTHER SELF POLLINATED SPECIES)

1. Field Inspection

Each field shall be inspected by a representative of the Association at least once after the seed begins to assume its mature color and when varietal mixtures and other quality factors can best be determined. Additional inspections may be required at the discretion of the certifying agency.

2. Field Standards

A. A certifiable field should be separated from other fields planted to different varieties of the same self-pollinated millet species by a distance of at least 165 feet to minimize outcrossing potential, especially when seeds of the varieties are of distinctly different colors (e.g. red vs. white).

B. Varietal Purity and Other Quality Factors

Factors	Maximum Permitted in Each Class (Ratio of Plants)		
	Foundation	Registered	Certified
Other varieties ¹	1:3,000	1:2,000	1:1,1000
Inseparable other crops ²	1:10,000	1:10,000	1:2,000
Primary and Prohibited noxious weeds	None	None	None
Wild proso millet	None	None	None

¹ Other varieties and off-types shall include those plants that can be differentiated from the variety being inspected as described by the originator.
² Inseparable other crops shall include crop plants, the seed of which cannot be thoroughly removed from the seed crop by usual methods of conditioning.

3. Seed Quality Standards

Factors	Standards for Each Class		
	Foundation	Registered	Certified
Pure seed (min %)	98.0	98.0	98.0
Inert matter (max %)	2.0	2.0	2.0
Total weed seed (max %)	0.05	0.10	0.10
Primary and Prohibited noxious	None	None	None
Wild proso millet	None	None	None
Wild buckwheat (max seeds/lb)	2	4	8
Total other crop seed (max %)	0.01	0.02	0.04
Other varieties ¹ (max %)	0.005	0.01	0.02
Other kinds (max %)	0.005	0.01	0.02
Germination (min %)	80	80	80

¹ Other varieties and off-types shall include those seeds that can be differentiated from the variety being analyzed, as described by the originator.

FIELD PEAS

1. Land Requirements

A field to be eligible for the production of certifiable seed must be planted on land which the preceding crop was of another kind or the same variety of a certified class.

2. Field Inspection

Each field shall be inspected by a representative of the NCIA at least once prior to harvest. Additional inspections may be required at the discretion of the certifying agency.

3. Field Standards

A pea field to be certifiable shall be separated from other pea fields by a distance adequate to prevent mechanical mixture.

A. Varietal Purity and Other Quality Factors

Factors	Maximum Permitted in Each Class (Ratio of Plant)		
	Foundation	Registered	Certified
Other varieties ¹	1:2000	1:1000	1:500
Other crops (inseparable) ²	None	1:5000	1:1000
Primary and Prohibited noxious and objectionable weeds	None	None	None
¹ Other varieties and off-types shall include plants that can be differentiated from the variety being inspected as described by the originator. ² Includes crops, the seed of which cannot be thoroughly removed from pea seed by the usual methods of conditioning.			

4. Seed Quality Standards

Factors	Standards for Each Class		
	Foundation	Registered	Certified
Pure seed (min %)	98.0	98.0	98.0
Inert matter (max %)	2.0	2.0	2.0
Total weed seed (max %)	None	0.05	0.1
Primary and Prohibited noxious and objectionable weeds (max)	None	None	None
Restricted noxious weeds (max/lb)	1	1	1
Total other crops (max %)	0.05	0.1	0.2
Other varieties ¹ (max %)	0.05	0.1	0.2
Other kinds (max %)	None	0.05	0.1
Germination + hard seed (min %)	80	80	80
¹ Other varieties and off-types shall include seeds that can be differentiated from the variety being analyzed, as described by the originator.			

SMALL GRAINS

(Wheat, Oats, Barley, Rye, Triticale)

1. Land Requirements

- A. For **White Wheat** an eligible field cannot have produced a white wheat variety for a period of one year unless certified seed of the same variety was used and Red Wheat variety for two years. For **Red Wheat** an eligible field cannot have produced a wheat crop for a period of one year unless certified seed of the same variety was used. A longer interval is recommended if the following conditions persist.
- 1) In areas of lower rainfall where seeds may remain dormant under fallow conditions.
 - 2) When seed crop to be grown is to follow a crop whose seeds cannot be separated thoroughly during conditioning (e.g., wheat in barley, rye or triticale in wheat, barley in oats).
 - 3) Any other cultural practices or typical climatic conditions which enable seed dormancy or seed mixtures.
- B. As an additional precaution, no amendments or materials which could be a source of contaminating seeds shall be applied to the field during establishment or any time of the growing season.

2. Field Inspection

Each field shall be inspected by a representative of the Association at least once after the plants are fully headed, and before harvest, when varietal mixtures and other quality factors can best be determined. Additional inspections may be required at the discretion of the certifying agency.

A. Isolation Requirements

- 1) Red wheat, white wheat and triticale (additional requirements) – A certifiable field of either red wheat, white wheat or triticale shall be not less than 20 feet from any field of rye not harvested before bloom. Isolated rye plants shall be subject to the five foot boundary requirement.
- 2) Red Wheat and triticale (additional guidelines) – To minimize outcrossing, a field planted for the production of the Foundation seed class should be not less than 20 feet from any other variety of wheat or triticale in bloom at the same time with a visible break between varieties. A field for the production of the Registered or Certified class seed should be separated from other varieties of the same crop type by either an uncropped strip 10 feet wide or a 10 foot wide strip equally divided between the two varieties shall be discarded at the time of harvest.
- 3) White Wheat (additional guidelines) – To minimize out crossing and contamination, a field planted for the production of the Foundation and Registered seed should not be less than 30 feet from any Red Wheat. Certified seed fields must be located no less than 20 feet. A field planted for the production of the Foundation seed class should be not less than 20 feet from any other variety of white wheat in bloom at the same time with a visible break between varieties. A field for the production of the Registered or Certified class seed should be separated from other white wheat varieties by either an uncropped strip 10 feet wide or a 10 foot wide strip equally divided between the two varieties shall be discarded at the time of harvest.
- 4) Rye – A field planted for the production of Foundation seed shall be isolated by at least 990 feet, while fields to produce Registered and Certified seed shall be isolated by at least 660 feet from rye fields of any other variety or fields of the same variety that do not meet the varietal purity requirements.

B. Varietal Purity and Other Quality Factors

Factors	Maximum Permitted in Each Class (Ratio of Heads)		
	Foundation	Registered	Certified
Other Varieties ¹	0.02% (1:5,000)	0.05% (1:2,000)	0.1% (1:1,000)
Inseparable Other Crops ²	0.01% (1:10,000)	0.01% (1:10,000)	0.05% (1:2,000)
Objectionable Other Crops and Weeds ³	None	—	—
Primary and Prohibited Noxious Weeds	None	None	None
Restricted Noxious Weeds ⁴	Lack of evidence of control of weed seed production.		
Loose Smut or Bunt ⁵	0.1 (1:1,000)	0.3 (3:1,000)	0.5 (5:1,000)
¹ Other varieties shall include plants that can be differentiated from the variety that is being inspected as described by the originator. ² Inseparable other crops shall include crop plants the seed of which cannot be thoroughly removed by the usual methods of conditioning. Both winter and spring types of the same crop shall be considered inseparable. ³ The seed, of any certified class, produced from fields found to contain such factors as jointed goatgrass or rye in other small grains or dock plants in oats shall be subject to special handling and conditioning procedures as directed by the Association. ⁴ Fields containing excessive (uncontrolled) amounts of Restricted Noxious Weeds (as listed in the General Standards) shall be disqualified from certification. ⁵ If loose smut or other seed-borne diseases are noted during field inspection in excess of the standard, seed treatment shall be required prior to planting.			

4. Seed Quality Standards

FACTORS																							
Class/Crop	% Germ (min)	% Pure Seed (min)	% Inert Matter (max)	Other Crops				Weed Seed															
				% Other varieties ¹ (max)	% Other kinds of crops (max)	Rye/Triticale (max)	Other small grains ² (max)	Seeds/lb of primary & prohibited noxious weeds (max)	Seeds/lb of restricted noxious weeds (max)	Seeds/lb of wild buckwheat ³ (max)	Seeds/lb of jointed goatgrass ³ (max)	Seeds/lb of total weed seed (max)											
FOUNDATION																							
Wheat	85	98	2	0.05	0.01	None	None	None	None	None	1	2	None	None	5								
Oats	90	98	2	0.20	0.01	—	None	None	None	1	2	None	None	5									
Barley	85	98	2	0.05	0.01	—	None	None	None	1	2	None	None	5									
Rye	80	98	2	0.05	0.01	—	None	None	None	1	2	None	None	5									
Triticale	80	98	2	0.05	0.01	None	None	None	None	1	2	None	None	5									
REGISTERED																							
Wheat	85	98	2	0.1	0.02	None	2/lb.	None	2/lb.	None	1	4	0	0	5								
Oats	90	98	2	0.3	0.02	—	2/lb.	None	2/lb.	None	1	4	0	0	5								
Barley	85	98	2	0.1	0.02	—	2/lb.	None	2/lb.	None	1	4	0	0	5								
Rye	80	98	2	0.1	0.02	—	2/lb.	None	2/lb.	None	1	4	0	0	5								
Triticale	80	98	2	0.1	0.02	None	2/lb.	None	2/lb.	None	1	4	0	0	5								
CERTIFIED																							
Wheat	85	98	2	0.2	0.05	None	5/lb.	None	5/lb.	None	1	8	0	0	10								
Oats	90	98	2	0.5	0.05	—	5/lb.	None	5/lb.	None	1	8	0	0	10								
Barley	85	98	2	0.2	0.05	—	5/lb.	None	5/lb.	None	1	8	0	0	10								
Rye	80	98	2	0.2	0.05	—	5/lb.	None	5/lb.	None	1	8	0	0	10								
Triticale	80	98	2	0.2	0.05	None	5/lb.	None	5/lb.	None	1	8	0	0	10								

¹ Other varieties shall include seeds that can be differentiated from the variety that is being analyzed, as described by the originator.

² This standard does not apply in the case of seeds of winter grains in spring grains or vice versa because of the effect of climate conditions.

³ The seedlots produced from fields found to contain such factors as jointed goatgrass, wild buckwheat, or hairy vetch in any small grain or dock in oats shall be subject to special handling, sampling, conditioning, and testing procedures as directed by the Association.

SOD

1. Purpose

The purpose of turfgrass certification is to provide a system by which participants may supply premium landscape quality vegetatively propagated turfgrass to the public consisting of kinds and varieties that are well adapted to Nebraska growing conditions.

2. Procedures and Regulations

The Association shall certify turfgrass for varietal identity, mechanical purity, and other measurable quality factors affecting performance. The general certification standards are basic and together with the following specific standards shall constitute the standards for certification of turfgrass in Nebraska. These standards shall apply to all turfgrass kinds which can be propagated vegetatively and are adapted to Nebraska.

3. Classes of Seed Recognized

- A. Foundation sod shall be the vegetative increase of breeder sod or seed.
- B. Registered sod shall be the vegetative increase of Foundation sod or seed.
- C. Certified sod shall be the vegetative increase of Foundation, Registered, or Certified sod or seed. Additional planting stock requirements for varieties of Kentucky bluegrass, Red fescue, Chewings fescue, and Tall fescue are included in IV B.

4. Application to Participate in Program

- A. To enroll any new field and establish its eligibility to be used for the production of certified quality turfgrass, a sod producer must submit to the Association at least **20 days in advance of seeding** the proposed field the following:
 - 1) An application form that has been completed and documents each proposed sod field to be established.
 - 2) An ASCS photo or map clearly establishing the identification and location of the proposed field.
 - 3) Only Sod Quality or higher labeled seedstocks are eligible for certification. Tags and invoices must be sent with the application.
- B. To participate in the certification program, a sod producer must submit to the Association no later than 4 weeks before lifting the following.
 - 1) An application form and a field record form on each field. A field history must accompany each application for field(s) previously established.
 - 2) An ASCS photo or map clearly establishing the identification and location of each field to be certified.
 - 3) Appropriate fees.

5. Land Requirements and Eligibility

- A. Unit of Certification - A field or portion of field to be inspected for certification of sod quality shall be planted, maintained, and harvested as prescribed in these standards and clearly defined by a boundary suitable to prevent mechanical mixtures.
- B. Isolation and Field Borders - A field to be eligible for inspection and production of certifiable sod shall be separated from any other perennial grass or objectionable plant species by a distinct boundary, at least five feet wide. The field boundaries shall be clearly marked at time of establishment and properly maintained throughout the life of the stand.
- C. A field to be eligible for the production of Foundation or Registered sod must have been inspected two (2) times and found free of all other perennial grass species and varieties for one year preceding the time of planting.
- D. A field to be eligible for the production of Certified sod must have been inspected prior to planting and found free of all other perennial grasses.

- E. Cropping History - Appropriate and effective management methods (e.g. crop rotation, fallow period, glyphosate herbicide, etc.) shall be used by the producer, prior to inspection, to control all noxious weeds and persistent objectionable grasses, including volunteer.
- F. No materials which could be a source of contaminating seeds, such as certain animal wastes, shall be applied during the establishment and productive life of the stand.

5. Cultivar (Variety) Requirements and Eligibility

- A. A field to be eligible for certification must be established (as applicable for the turfgrass kind) with a variety or blend of varieties or mixture of varieties/kinds that are well adapted to Nebraska growing conditions.
- B. The percentage of each variety (by weight) in the seeding blend or mixture shall be stated on the Seedling Application and verified by documentation at the time of establishment.
- C. Overseeding
 - 1) If overseeding is necessary to thicken original stand, the sod producer must use the same varieties in the same percentage of blend or mixture as originally seeded.
 - 2) An established field which is overseeded with a different variety or blend from that originally planted shall be ineligible to produce Certified sod for the life of the stand.

6. Source of Seed or Vegetative Stock

- A. Only a field planted with an acceptable source of seed or vegetative stock, as described in these standards, is eligible for certification.
- B. Sod Quality Certified seedstocks (Gold Label) or Foundation vegetative stocks, as applicable for the turfgrass kind, shall be required for all varieties. Only when Sod Quality seed is not available in normal seed trade channels for a variety or kind, as determined by the Association, may Certified seed be substituted.
- C. Establishing Source - The eligibility of the source, class, and quantity of seed or vegetative stock used in establishing a field must be verified. This shall be done by providing to the Association, on the Seedling Application, prior to seeding:
 - 1) A Sod Quality (Gold label) tag for each variety, blend, or mixture removed from the containers of seed that was planted, or
 - 2) A bill of lading, sales invoice, or letter of documentation listing complete information for source, certification class, lot number, and pounds of each seedlot or number of plugs/sprigs of vegetative stock planted.
- D. Blending or Mixing - The sod producer may use either a Nebraska Interagency Certified blend or mixture, or have the seed supplier mix the individual components, or mix the seed together themselves. Every effort should be made to ensure the seedlots are blended/mixed uniformly before seeding.
- E. Record keeping - The sod producer shall maintain a permanent record for each field (including seed tags/labels, sales invoice, or other evidence) establishing the variety, lot number, and source of seed or vegetative stock used to plant each field. Another useful and suggested reference is to keep a representative seed sample (at least two pounds) of the seedlot(s) used to establish each field for the life of the stand.

7. Labeling and Marketing Certified Turfgrass Sod

- A. Only designated areas of sod meeting or exceeding ALL requirements, as described in these standards, shall qualify to be labeled as Certified Quality.
- B. Official serially-numbered Certified Quality Sod Certificates are available on request from the Association office.
- C. The sod producer shall attach a Certified Quality Sod Certificate to the invoice or delivery ticket or bill of lading accompanying each sale. The sod producer may not provide a certificate after the turfgrass has been delivered.
- D. IMPORTANT - Any sod that is delivered without a Certified label, as appropriate, may not be claimed as being Certified even if all other requirements have been met.

8. Varietal Purity and Other Quality Factors

Maximum field allowance for other crops and weeds, other varieties or off-type plants of the same species, and other turfgrass species, when recognizable, are indicated in the following table.

Factors	Maximum Permitted per Acre		
	Foundation	Registered	Certified
Other turfgrasses ¹	1	2	5
Other Crops ²	None	None	None
Noxious/Objectionable weeds ³	None	None	None
Objectionable plants ⁴	10	20	40
<p>¹ Other turfgrasses shall include: (a) Other varieties or off-type plants of the species being inspected (b) species of turfgrasses other than the one being inspected, when recognizable.</p> <p>² Other Crops shall consist of all other kinds and varieties of perennial grasses.</p> <p>³ Unacceptable plants shall include primarily Primary, Prohibited, and Restricted noxious weeds of the Nebraska State Seed Law (seed General Standards) and other plants difficult to control selectively through cultural or chemical methods in turfgrass sod including nutsedge, nimblewill, goosegrass, smooth brome, orchardgrass, timothy, and bull thistle.</p> <p>⁴ Objectionable plants shall include crabgrass, dandelion, plantain, sheep sorrel, wood sorrel, ground ivy, yarrow, chickweed, speedwell, spurge, knotweed, purslane, healall, black medic, white clover, and any other broadleaf or grassy weed which may distract from sod quality or performance.</p>			

SORGHUM AND SUDANGRASS

(Open-Pollinated Varieties)

1. Field Inspection

Each field shall be inspected by a representative of the Association at least twice during the growing season when variety purity and other quality factors can best be determined; first when the field is fully in bloom and again after the seed begins to assume a mature color. Additional inspections may be required at the discretion of the Association.

2. Field Standards

A. Isolation Requirements

Fields to be acceptable for the production of Foundation, Registered, or Certified seed shall have a minimum isolation distance of at least **1320 feet** from fields of any other variety or fields of the same variety of sorghum or sudangrass that do not meet the varietal purity requirements for certification. This includes off-type plants or weedy sorghums that may occur within the minimum distance.

B. Varietal Purity and Other Quality Factors

Factors	Maximum Permitted (Ratio of Heads)		
	Foundation	Registered	Certified
Other Varieties (definite) ¹	1:50,000	1:35,000	1:20,000
Other Varieties (doubtful)	1:20,000	1:10,000	1:1,000
Objectionable Other Crops ²	None	None	None
Primary and Prohibited Noxious Weeds ³	None	None	None
Head Smut	None	None	1:10,000

¹ Other varieties shall include off-type plants that can be differentiated from the variety that is being inspected, as described by the originator.
² Objectionable other crops shall include crop plants, the seed of which cannot be thoroughly removed by usual methods of conditioning and/or may be a source of contaminating pollen.
³ As listed in the General Standards. Includes Johnsongrass.

3. Seed Quality Standards

Factors	Standards for Each Class		
	Foundation	Registered	Certified
Pure Seed (min %)	98.5	98.5	98.0
Inert matter ¹ (max %)	1.5	1.5	2.0
Total weed seeds ² (max %)	0.1	0.1	0.1
Primary and Prohibited noxious weeds	None	None	None
Total other crop seeds (max %)	0.01	0.03	0.08
Other crops ³ (max %)	0.01	0.03	0.07
Other varieties (max %)	0.005	0.01	0.05
Germination (min %)	80	80	80

¹ The total inert shall not exceed 1.0% other than cracked seeds or shall not to exceed one smut ball (kernel smut) per pound.
² Weed seeds in sudan shall not exceed 25 per pound, except sunflower seed shall not exceed ten per pound.
³ Other crops shall not exceed 2 per pound for Foundation, 6 per pound for Registered, and 10 per pound for the Certified seed class.

SOYBEANS

1. Varietal Purity and Other Quality Factors

Factors	Maximum Permitted in Each Class (Ratio of Plants)		
	Foundation	Registered	Certified
Other Varieties ¹	0.1%(1:1,000)	0.2%(2:1000)	0.5%(5:1000)
Corn Plants with Developed Seed and Objectionable Weeds ²	None	None	None
Primary and Prohibited Noxious Weeds	None	None	None
Restricted Noxious Weeds ³	Lack of evidence of control of weed seed production.		

¹ Other varieties shall include plants that can be differentiated from the variety that is being inspected, as described by the originator.
² The seed produced from fields found to contain corn plants with developed seeds, black nightshade, or other objectionable weeds shall be subject to special handling and conditioning procedures as directed by the Association.
³ A field containing an excessive (uncontrolled) population of Restricted Noxious weeds (as listed in the General Standards) shall be disqualified from certification.

2. Seed Quality Standards

Factors	Standards for Each Class		
	Foundation	Registered	Certified
Pure Seed (min %)	98.0	98.0	98.0
Inert matter (max %)	2.0	2.0	2.0
Total other crop seeds (max %)	0.20	0.30	0.60
Other varieties ¹ (max %)	0.10	0.20	0.50
Other kinds (max/lb)	None	3	3
Corn kernels (max)	None	None	None
Total weed seed ² (max/lb)	5	5	5
Restricted noxious (max/lb)	1	1	1
Primary and Prohibited noxious (max)	None	None	None
Cocklebur or black nightshade ³ (max)	None	None	None
Germination ⁴ (min %)	80	80	80

¹ Other varieties shall include seeds that can be differentiated from the variety that is being analyzed, as described by the originator. Seeds with off-colored coats or hila due to environmental conditions during production shall not be considered other varieties.
² The percent of total weed seed present shall not exceed 0.05% for any certified seed class.
³ The seedlots produced from fields found to contain corn plants with developed seed, black nightshade, cockleburs, or other objectionable weeds shall be subject to special handling, sampling, conditioning, and testing procedures as directed by the Association.
⁴ Minimum germination for an edible or large-seeded variety may be considered to be 70% at the discretion of the certifying agency.