

Kansas Certification Standards

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Kansas Crop Improvement Association

GENERAL CERTIFICATION STANDARDS

Note: These general standards are applicable to all crops eligible for certification and, with the standards for individual crops, shall constitute the certification standards of the Kansas Crop Improvement Association (KCIA).

I. PURPOSE OF CERTIFICATION

The purpose of certification shall be to maintain and make available to the public, high quality seeds and propagating materials of superior crop varieties grown and distributed so as to ensure varietal identity and genetic purity. The word “seed” as used in these standards shall be understood to include all propagating materials.

II. ELIGIBILITY REQUIREMENTS FOR VARIETIES

KCIA reserves full authority to determine the eligibility of a variety for certification in Kansas. Varieties eligible for certification shall include those eligible for certification by any member of the Association of Official Seed Certifying Agencies, those accepted by a National Certified Variety Review Board, those for which an application for Plant Variety Protection has been accepted and for which all items of information (A through I below) is complete, and those accepted by the KCIA Board of Directors.

The certifying agency shall require the originator, developer, or owner of the variety, or agent thereof, to make the following available when eligibility for certification is requested:

- A. The name of the kind and variety.
- B. A statement concerning the variety’s origin and the breeding procedure used in its development, including the type and frequency of variants during reproduction and multiplication and describing how these variants may be identified.
- C. A detailed description of the known morphological, physiological, and other characteristics of the plants and seed that distinguish it from other current varieties.
- D. Evidence supporting the identity of the variety, such as comparative yield data, insect and disease resistance, or other factors supporting the identity of the variety.
- E. A statement delineating the geographic area or areas of adaptation of the variety.
- F. A statement on the plans and procedures for the maintenance of seed classes, including the number of generations through which the variety may be multiplied.
- G. A description of the manner in which the variety is constituted when a particular cycle of reproduction or multiplication is specified.
- H. Any additional restrictions on the variety, specified by the breeder with respect to geographic area of seed production, age of stand or other factors affecting genetic purity.
- I. A sample of seed representative of the variety as marketed. The sample size shall be that required for the submitted sample in the current issue of the Rules for Testing for the Association of Official Seed Analysts. For vegetative material, the sample size shall be set by the certifying agency at the time of certification request.

III. DEFINITION OF TERMS

- A. Off type means 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 a seed or plant of another variety; a seed or plant of not necessarily any variety; a seed or plant resulting from cross-pollination by another kind or variety; a seed or plant resulting from uncontrolled self-pollination during production of hybrid seed; or segregates from any of the above.
- B. Variant means any seed or plant which (1) is distinct within the variety but occurs naturally in the variety (2) is 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 (3) was originally a part of the variety as released. A variant is not an off-type.
- C. 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; and “stable” in the sense that the variety will remain unchanged to a reasonable degree of reliability in its essential and distinctive characteristics and its uniformity when reproduced or reconstituted as required by the different categories of varieties.
- D. Blend means two or more varieties of the same kind each in excess of 5% of the whole.
- E. Mixture means a combination of seed consisting of more than one kind each in excess of 5% of the whole.
- F. Hybrid means the first generation seed of a cross produced by controlling the pollination and by 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 lines, varieties, or species, other than open pollinated varieties of corn (*Zea mays*). “Hybrid” shall not include the second generation or subsequent generations from such crosses. Hybrid designations shall be treated as variety names. Controlling the pollination means to use a method of hybridization which will produce pure seed which is 75% or more hybrid.
- G. Inbred line means 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.
- H. Single cross means the first generation of a cross of two inbred lines.
- I. Foundation single cross means a single cross used in the production of a double cross, a three-way, or a top cross.
- J. Double cross means the first-generation hybrid between two single crosses.
- K. Top cross means the first-generation hybrid 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.
- L. Three-way cross means the first-generation hybrid between a single cross and an inbred line.
- M. Open-pollination means pollination that occurs naturally as opposed to controlled pollination, such as by detasseling, cytoplasmic male sterility, self-compatibility, or similar processes.
- N. Seed lot means a definite quantity of seed identified by a lot number, every portion or bag of which is uniform, within permitted tolerances, for the factors which appear in the labeling.
- O. Other terms requiring definition shall be as defined by the AOSCA Standards, Kansas Seed Law, Federal Seed Act, or PVP Act

IV. DESIGNATION OF CLASSES OF SEED

Four classes of seed shall be recognized for named varieties in seed certification: Breeder, Foundation, Registered and Certified. Three classes of pre-variety materials are recognized: source identified, selected and tested.

- A. Breeder Seed is seed directly controlled by the originating or sponsoring plant breeding institution, firm, or individual, and is the source for the production of seed of the certified classes.
- B. Foundation Seed is seed that is the progeny of Breeder or Foundation seed produced under control of the originator or sponsoring plant breeding institution, or person, or designee thereof. As applied to certified seed, Foundation seed is a class of certified seed that is produced under procedures established by the certifying agency for the purpose of maintaining genetic purity and identity.
- C. Registered Seed shall be the progeny of Breeder or Foundation seed that is handled so as to maintain variety identity and satisfactory genetic purity and that has been certified by a certifying agency.
- D. Certified Seed shall be the progeny of Breeder, Foundation, Registered, or Certified seed that is handled so as to maintain variety identity and satisfactory genetic purity and that has been certified by a certifying agency.
- E. 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.
- F. 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.
- G. 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. This seed must be produced so as to assure genetic purity and identity.

V. LIMITATIONS OF GENERATIONS FOR CERTIFIED SEED

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

- A. Recertification of the Certified class may be permitted for varieties when Foundation seed is no longer being maintained.
- B. The production of an additional generation of the Certified class may be permitted on a one-year basis only when determined by the certifying agency that the production may be insufficient to meet demand. This additional generation of Certified seed is ineligible for recertification.

VI. ESTABLISHING SEED SOURCE

A crop eligible for certification shall be grown from Breeder seed supplied by the originator or his or her authorized representative, from seed inspected and approved for varietal purity by the Kansas Crop Improvement Association, or from seed certified by a recognized certifying agency of another state or nation. An applicant claiming a seed source other than of his or her own production shall support the claim with documentary evidence, such as an official certification tag or label. An applicant claiming a seed source of his or her own production need only identify the field or lot from which his or her seed source came. At the discretion of the certifying agency, a producer may continue production of Foundation, Registered, or Certified seed from lots of seed that were inspected but rejected because of factors not involving varietal identity and genetic purity.

VII. PRODUCTION OF SEED – FIELD INSPECTION

- A. An application for field inspection shall be filed, on a form provided by KCIA, for each field intended for certified seed production. Form completion and verification of seed source shall be governed by the instructions appearing on or with the application form. Applications are due at KCIA by the filing deadline for the crop.
- B. Inspections of seed production fields shall be made as required by the individual crop certification standards of KCIA. The following factors shall be of primary consideration at the time of field inspection:
 1. Variety Purity: Each field for which certification is requested shall show, at the time of field inspection, that reasonable effort has been made to maintain satisfactory varietal purity, as specified in the individual crop certification standards.
 2. Isolation: Each field for which certification is requested shall be at the time of field inspection, separated from areas growing the same species and/or areas of certain other species as prescribed by the individual crop certification standards.
 3. Weeds and Other Crops: Each field for which certification is requested shall show that prohibited weeds and prohibited crops have been controlled and that reasonable precaution has been taken to control objectionable weeds and other crops, the seeds of which are indistinguishable or inseparable by available cleaning equipment from seed of the particular crop being inspected. KCIA requires a cleaned seed inspection sample (CSI) on all seed harvested for certification.
 4. Seed-borne Diseases: Each field for which certification is requested shall show that reasonable precaution has been taken to control seed-borne diseases.
 5. Unit of Certification: The unit of certification shall be a clearly defined area that may be divided subject to special regulations for specific crops.

VIII. BULK SEED PRODUCED IN SEPARATE FIELDS

- A. Consolidating Lots of Seed
 1. Seed of the same variety produced in separate fields may be binned and conditioned as one lot provided the inspection reports on the fields are similar. Seed of the same variety produced in separate fields that are not of a similar condition or class at the time of inspection may also be consolidated. In such cases the information for the consolidated seed shall be taken from the report on the field or lot found to be poorest for any condition. If lots of different classes are consolidated, the lowest class shall be applied to the resultant consolidation. Any lots combined must be reported to the KCIA office on appropriate forms using recommended numbering procedures prior to the retail sales.

B. Blends and Mixtures of Certified Seed

1. The certifying agency must issue a certification number for each blend/mix to be sold. To receive a certification number for a blend/mix, the certification number and the amount used of each component must be reported.
2. Only certified seed of each of the component varieties shall be used in a certified blend/mixture. Proof of certification of seed used must be submitted to the certifying agency.
3. The smallest percentage of a component used in a blend/mixture shall not be less than five percent (5%) by weight except for grass seed.
4. Labels for blends/mixes must list in descending order the percentage and varietal name of each component of that blend, unless that blend has been registered with the Kansas State Department of Agriculture.
5. The certification label must carry either the word “blend” or “mixture” and meet all other certification and legal labeling requirements.
6. Seed lots of the same variety and class may be blended and the class retained. If lots of different classes are blended, the lowest class shall be applied to the resultant blend. Such blending can only be done when authorized by the certifying agency.

IX. HARVESTING, HANDLING, STORING, AND CONDITIONING CERTIFIABLE SEED

- A. The owner of certifiable seed is at all times fully responsible for the cleanliness and freedom from contamination of any and all equipment and facilities used to plant, harvest, handle, transport, store, or condition said seed. All certifiable seed shall be properly conditioned after harvest before certification can be completed.
- B. Facilities to perform all conditioning operations without introducing admixtures must be available. Identity of the seed must be maintained at all times.
- C. KCIA may inspect any and all equipment, records, and facilities used to harvest, handle, transport, store, or condition certifiable seed at any time and/or place and may reject for certification a seed lot not adequately protected from contamination or mixture or not sufficiently identifiable.
- D. Producers and Conditioners shall keep records of all operations relating to certification that shall be complete and adequate to account for all incoming seed and final disposition. These records shall be available for inspection by the certifying agency.
- E. All conditioners approved to condition seed for certification shall designate an individual who shall be responsible to the certifying agency for performing such duties as may be required.
- F. Application for approval of conditioners shall be on an annual basis.
- G. All Kansas certifiable seed shall be conditioned by an approved certified seed conditioner. However, a grower may clean his or her own seed if approved by the KCIA to do so (as a grower/conditioner).
- H. Conditioning of a lot or portion of a lot shall be reported on Request for Testing – Form D at the time the seed sample is submitted for certification testing. Provisional certification on a conditioned portion of a lot is allowed. Additional cleaning information must be provided to the KCIA office.
- I. Use of custom services can be an additional point of contamination. All equipment is the responsibility of the certified grower and/or the custom cutter, planter, trucker, etc.

X. TRANSFER OF CERTIFIABLE SEED FOR CONDITIONING AND COMPLETION OF CERTIFICATION

- A. Only Category I Kansas Approved Conditioners, certified seed growers, and genetic owners/licensees are eligible to receive transferred certifiable seed and complete certification with KCIA.
- B. The buyer must condition and complete the requirements for certification before resale or retail sale of the seed. Transferred seed of all classes may be bagged or may move in accordance with KCIA standards for movement of bulk certified seed.
- C. The seed producer and buyer must complete an In-State Transfer of Inspected Seed in Bulk form, available through KCIA, which gives a record of transfer that carries the signatures of the producer and buyer, variety name, the kind, and amount of seed. Additional purchase of the same seed lot may be conducted using the Additional Transfer of Inspected Seed in Bulk form. Both buyer and seller are each responsible for taking and maintaining a sample of the seed transferred for one season. At the time the producer relinquishes control of the seed, the buyer assumes varietal and mechanical liability.
- D. Both buyer and seller are responsible for ensuring paperwork is submitted to KCIA.

XI. SEED LOT SIZE AND SAMPLING AND TESTING CERTIFIABLE SEED

- A. The owner of certifiable seed is responsible for making a representative sample available to KCIA for laboratory analysis. Results of testing such a sample shall be used to determine whether the lot it represents meets the quality requirements set forth in the individual crop certification standards. Refer to General Standards, Section XXII, for proper sampling procedures.
- B. KCIA reserves the right to procure samples of certifiable or certified seed at any reasonable time or place, for ascertaining whether such seed meets certification requirements.
- C. All seed tests used for labeling certified seed shall be performed by qualified analysts using the rules for testing seed as adopted by the AOSA-SCST (previously Association of Official Seed Analysts). However, when no rules for testing have been adopted by AOSA-SCST, the procedure used shall be approved by KCIA.
- D. Lot size is not limited. A sample of appropriate size must be submitted to the KCIA for Cleaned Seed Inspection (CSI) on each 5000 bushels or fraction thereof before certification can be completed for the lot. If the entire lot is not conditioned, the sample(s) must be taken from not less than 50 bushels of seed, which have been threshed and cleaned as you intend to condition the entire lot for sale.
- E. A preliminary germination test may be used for the transfer, resale, or retail sale of rye, triticale, and wheat, provided the seed lot has met all other cleaned seed testing requirement. The preliminary germination percentage so used must not exceed the final cleaned-seed inspection germination percentage. The seller assumes all risk when labeling with a preliminary germination percentage and will be responsible to remedy consequences thereof. A representative seed sample from each field so moved must be submitted for testing and must achieve at least a 90% germination and have a maximum 13% moisture content.
- F. Additional testing mandated by, but not limited to, regulatory organizations such as the USDA and Kansas Department of Agriculture in response to diseases outbreaks or similar emergency will be considered as required for certification.
- G. Additional trait verification testing may be required to complete certification of a lot if any Additional Certification Requirements (ACR) are designated for the variety.

XII. SEED TREATMENT

Seed treatment to control seed-borne organisms may be required in the certification standards for individual crops. Untreated seed should be submitted for testing unless otherwise directed.

XIII. STANDARDS COMMITTEE

Whenever final approval of a field or seed lot is referred to the Standards Committee, the owner of the seed will be invited to attend the committee meeting to present any pertinent information.

XIV. COMPLETION OF CERTIFICATION

Certification is conferred when a seed production field and the Cleaned Seed Inspection (CSI) sample representing the seed harvested from this field have met all requirements for certification. If the CSI sample represented more than the amount conditioned, it is understood that the balance of the seed is to be conditioned in the same manner and by the same conditioner as the CSI sample submitted. Additional samples of cleaned seed shall be submitted as required to meet the sample requirements for the crop and seed lot size.

As additional amounts of seed are conditioned of a “provisional” lot of seed, additional cleaning information must be reported to the KCIA office, refer to General Standards, Section IX.

XV. SUBSTANDARD SEED IN EMERGENCY SITUATIONS

It is recognized that in an emergency, such as unfavorable weather conditions, certain lots of seed necessary for the advancement of crop improvement will be lost if regular certification standards are adhered to. Therefore, under such circumstances and by action of the KCIA Board of Directors, seed failing to meet certification standards for reasons other than those affecting varietal identity and genetic purity may be certified.

XVI. IDENTIFYING AND MARKETING CERTIFIED SEED

All certified seed must be identified either by field number or certification number as appropriate. A certification number must be used for labeling purposes. Certification labels for those varieties for which plant variety protection has been applied for or received shall carry appropriate statements. The term “label” shall be construed to mean all labels or tags used on packaged seed, bulk retail sale certificates, and bulk resale or transfer documents.

A. Bulk

1. Labeling: Each retail bulk sale of seed shall be identified with an official Bulk Retail Sale Certificate obtained from KCIA and signed by the seller, or by an official Bulk Invoice Label attached to a document from the seller, listing the weight of seed sold.
2. The purity of seed after delivery is the responsibility of the purchaser.
3. The Foundation, Registered, and Certified seed may be sold by the applicant directly to the buyer in bulk and recertified in compliance with the generation system. Seed may be delivered as provided below and in accordance with certificate requirements as outlined in Section XIV.
 - (a) At the applicant’s principal place of business or approved Bulk Distribution Center.
 - (b) By the applicant at the time and place of seed conditioning.
 - (c) The applicant may deliver purchased seed directly to a farmer/end user.
 - (d) As otherwise provided for in the rules for Transfer and Bulk Resale seed.

B. Packaged

1. Except as noted in Section XVI.A and XVI.D, all Foundation seed, all Registered, and Certified seed handled by anyone other than the applicant and the buyer, and all certified seed of crops other than oats, wheat, triticale, rye, barley, or soybeans shall be packaged for sale.
2. Packaging containers used for certified seed shall be new and shall not have exposed printing or trademarks referring to products other than seed, or to kinds or varieties other than that contained, except, that hard-sided, re-usable, bulk seed containers, properly cleaned may be re-used for all classes of certified seed. Used and/or reconditioned bags capable of holding 1000 (one thousand) pounds or more may only be used for the same variety Certified class of certified seed only.

C. Identifying

1. Certification labels

- (a) The owner of certified seed, or his or her designated representative, shall obtain official certification labels from KCIA and is responsible for affixing them to the correct seed containers or documents.
- (b) Official certification labels shall be white in color for the Foundation class of seed, purple for the Registered class, and blue for the Certified class.
- (c) An official certification label shall be printed to show the name of the variety, kind, the certification number of the seed lot, the agencies involved in the certification, and origin of the seed.
- (d) For seed certified as substandard under the provisions of Section XV of the General Standards, official certification labels shall be printed and/or stamped to clearly show the respects in which the seed does not meet the regular certification standards.
- (e) An official certification label shall be sewn into or sealed to each container of certified seed before sale. Self-adhesive labels may be used on paper bags. These will serve as evidence of the class and varietal identity of the seed.
- (f) In order to allow seedsmen to bag and label in one operation, certification labels may be pre-issued upon receipt of completed field inspection reports showing that field production standards have been met, even though final laboratory tests have not been completed. Such seed lots shall not leave control of the conditioner and/or owner until final certification is completed. In the event certification is denied, all labels shall be accounted for and destroyed.
- (g) Category I Approved Conditioners or Category I Growers may be authorized to print certification labels. KCIA will require an accounting of all seed containers when an applicant is approved to print labels directly on containers.

2. Seals and Sealing

- (a) Official certification seals shall be obtained from KCIA. Such seals assure consumers and intermediate handlers that the seed received or handled is that originally certified.
- (b) All containers of certified seed are to be sealed before sale in such a way that the container cannot be opened and re-closed without breaking the seal.

D. Resale of certified seed in bulk shall occur as with all certified seed except as follows:

1. A “resale” action will be initiated through the KCIA dashboard for the movement of seed to be resold. The “additional purchase” action may be used to purchase additional amounts of the same seed lot. Only Category I Conditioners, Category I Growers, eligible Category II Conditioners, or approved Bulk Retail Facilities are eligible to be a Resaler.

2. All Resale seed will use a standard analysis label of 90% germination, 99.00% purity, 0.98% inert, 0.01% weed seed, and 0.01% other crop seed.
3. Re-labeling of this seed is limited to the standard analysis. The buyer (Resaler) must obtain their own test if they wish to upgrade any of the analyses on the label.
4. All seed for Resale must be tested by KCIA and meet seed standards.
5. All classes of seed are eligible for certified resale.
6. Certified and Registered seed may be sold in bulk no more than three times, consisting of a maximum of two wholesale (Resale) transactions and one retail sale. Foundation seed may be sold in bulk no more than two times, consisting of one wholesale (Resale) transaction and one retail sale.
7. Resale seed is otherwise treated as certified seed. It may be sold through a Bulk Distribution Center. It may be bagged for sale.
8. Resale seed does not need to arrive at the Resaler's facilities.
9. Both buyer and seller are responsible for ensuring paperwork is submitted to KCIA. The responsibility to initiate the resale rests with the seller. This shall be completed within five (5) business days of the physical seed movement.

XVII. DISTRIBUTION REPORTS

Final seed distribution reporting shall be required of the grower after the normal sales season and submitted to KCIA by the deadline date.

XVIII. COMPLYING WITH SEED LAWS

KCIA is not responsible for any obligations arising from the sale or transfer of seed that has been certified. All Kansas certified seed must meet all requirements of the Kansas Seed Law.

XIX. INTERAGENCY CERTIFICATION

- A. KCIA will cooperate with member agencies of the Association of Official Seed Certifying Agencies in providing interagency certification service. Interagency certification standards and procedures of the Association of Official Seed Certifying Agencies, as well as requirements of the cooperating agency or agencies shall be followed, refer to General Standards, Section XI.D.
- B. Seed to be recognized for interagency certification must be received as carrying official certification labels or, if shipped for conditioning, evidence of its eligibility from another official certifying agency together with the following information:
 1. Variety
 2. Quantity of seed
 3. Class of certified seed
 4. Inspection or lot number traceable to the previous certifying agency's records
- C. The appropriate interstate form shall be used for transfer or resale of certified seed moving into or out of Kansas.
- D. Each label used in interagency certification shall carry the certification number and clearly identify the certifying agencies involved and the variety (if certified as to variety), kind, and class of certified seed.

XX. STANDARDS FOR CROPS NOT PRESENTLY CERTIFIED IN KANSAS

Crops for which Kansas Certification Standards have not been adopted shall be inspected using Association of Official Seed Certifying Agencies (AOSCA) standards. These standards will continue to be used until it is deemed appropriate to adopt specific Kansas standards.

XXI. INTERPRETATION AND CHANGE OF RULES

The Board of Directors of the Kansas Crop Improvement Association shall have the authority to interpret and change any provisions of the rules and regulations for certification. All interests shall be notified, through one or more of the Association's media of communications, of such change or new interpretation. Case-by-case temporary exception to regular certification standards are at the discretion of the Executive Director under the direction of the Board President and the Vice President of Standards.

XXII. SAMPLING PROCEDURES

A seed lot is any quantity of seed presented for sale that is uniform in all the attributes of seed quality, i.e., purity, germination, vigor, etc. If there is some suspicion that a seed lot is not uniform, it should be divided into two or more lots that are more uniform. Some reasons for non-uniformity might be weed contamination, variable harvest conditions, or any other issue that might change the quality of only a portion of the lot. All samples for certified seed inspection shall be taken according to the sampling procedures prescribed in the current AOSA-SCST Rules.

A. General Procedure

1. To secure a representative sample, equal portions shall be taken from evenly distributed parts of the quantity of seed to be sampled. All parts of the quantity shall be accessed.
2. For free-flowing seed in bags or bulk, a probe or trier shall be used. For small free-flowing seed in bags, a probe or trier long enough to sample all portions of the bag shall be used.
3. Non-free-flowing seed, such as certain grass seed, uncleaned seed, or screenings, difficult to sample with a probe or trier, shall be sampled by thrusting the hand into the bulk and withdrawing representative portions.
4. Composite samples shall be obtained to determine the quality of a lot of seed, such as the percentages of pure seed, other crop seed, weed seed, inert matter, noxious weed seed, germination, varietal purity, freedom from disease, and effectiveness of seed treatment. Individual bag samples may be obtained to determine whether the seed is of uniform quality.

B. Sampling Equipment

For sampling seeds in bags, a trier long enough to reach all areas in the bag shall be used. The trier shall be designed so that it will remove an equal volume of seed from each part of the bag through which the trier travels. Unless the trier has partitions in the seed chamber, it must be inserted into the bags horizontally. Non-free-flowing seeds difficult to sample with a trier shall be sampled by thrusting the hand into the seed and removing representative portions. When a sample is taken with the hand, insert the hand flat with the fingers together. Keep the fingers together as the hand is closed and withdrawn. Because of possible segregation, hand samples should be taken from various locations in bags or in bulk. Avoid storing seeds in a plastic bucket. The static electricity generated in the bucket makes a separation in the sample that will prevent a true determination of mechanical purity. A metal bucket is a better container to hold the seed until packaged for mailing.

C. Obtaining a Representative Sample

1. Seed in bags

- (a) When more than one core is drawn from a bag, follow different paths. When more than one handful is taken from a bag, take them from well-separated points.
- (b) For lots of one to six bags, sample each bag and take a total of at least five cores or handfuls.
- (c) For lots of more than six bags, sample five 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 lot size, it is not necessary to sample more than 30 bags.

<u>Example</u>	<u>No. bags in lot</u>	<u>7</u>	<u>10</u>	<u>23</u>	<u>50</u>	<u>100</u>	<u>200</u>	<u>300</u>
	No. bags to sample	6	6	7	10	15	25	30

- 2. Bulk seed - To obtain a composite sample, take at least as many cores or handfuls as if the same quantity of seed were in bags of an ordinary size. Take the cores or handfuls from well-distributed points throughout the bulk. (When using a long probe, don't completely close the probe before withdrawing it from the sample. This clips the seeds and creates more inert matter than you would normally find in a lot.)
- 3. Seed in small containers - Seed in small containers shall be sampled by taking entire unopened containers in sufficient number to supply a minimum size sample as required in Section 4. The contents of a single container or the combined contents of multiple containers of the same lot shall be considered representative of the entire lot of seed sampled.
- 4. Sampling during conditioning
 - (a) Automatic mechanical devices may be used to continually or intermittently draw representative samples as a seed lot is conditioned, or
 - (b) Portions of conditioned seed may be drawn intermittently by hand as seed is conditioned to form a composite, representative sample for a seed lot.

D. Minimum Size of Submitted Sample

For a composite sample to test for quality - The following are minimum weights for samples of seed to be submitted for purity, germination and noxious weed seed examination. (For CSI minimum weights, see certification standards for the individual crops.)

- 1. Two ounces (approx. 55 grams) of grass seed not otherwise mentioned, alsike or white clover, or seeds not larger than these.
- 2. Five ounces (approx. 150 grams) of alfalfa, bromegrasses, crimson or red clover, flax, lespedeza, millet, rape, ryegrasses, or seeds of similar size.
- 3. One pound (approx. 500 grams) of proso, sudangrass, or seeds of similar size.
- 4. Two pounds (approx. 1000 grams) of cereals, vetches, sorghums, or seed similar or larger.

E. Identification and Forwarding of Samples

Before forwarding samples for laboratory analysis, the containers shall be completely and properly identified, including kind, variety, crop year, seed class, grower's name, and tests to be performed. Containers should be of such construction that the seed may not be damaged during shipping and that the sample may be intact upon arrival at the KCIA Seed Laboratory.

KANSAS CROP IMPROVEMENT ASSOCIATION

BULK KANSAS CERTIFIED SEED DISTRIBUTION CENTER STANDARDS

A Bulk Certified Seed Distribution Center (BDC) is any location not principally owned by the certification applicant that is contracted for the purpose of selling that applicant's Kansas Certified seed in bulk. The facility must be properly registered with the appropriate state's Department of Agriculture as a retail seed dealer. The certification applicant retains all responsibility for labeling of the seed, varietal purity, and compliance with all applicable Kansas certification standards, and state and federal seed law. Facilities and/or personnel must be under contract with the applicant.

I. APPLICATION

Any applicant who is a Category I Grower or a Category I Approved Conditioner may apply to have bulk distribution locations. All applications must be made using forms provided by KCIA. Application for each facility/site will include an on-site inspection conducted by the applicant and reported to KCIA on the appropriate inspection report to confirm that the facility is adequate for handling Kansas certified seed according to the requirements in Section II.B of this standard. Application/inspection must be made and KCIA approval received prior to any movement of seed. Incomplete application/inspection reports will be returned unapproved. Annual renewal is required.

II. REQUIREMENTS

A. Eligible seed

Only the Certified class of seed may be sold through the bulk distribution center. The seed remains the property of the applicant until retail delivery is made. The seed must have been produced by the bulk distribution center applicant or transferred to the bulk distribution center applicant according to KCIA standards for transfer or resale movement of bulk certified seed.

B. Facilities

1. A separate bin for each variety is required that cannot be contaminated from an outside source. Bins must be labeled sufficiently to prevent misidentification.
2. A load out procedure that maintains the integrity of the seed must be in place.
3. Legal scales must be available to adequately weigh the largest vehicle that might be used. Scales do not have to be on site.

C. Records

Complete up-to-date records must be kept that include variety, certification/lot number, and amount sold. Sales should be traceable to the facility making each sale/delivery should recall action be required.

D. Designated representative

An individual at each bulk distribution center shall be designated as responsible for all records and activities that relate to the sale of bulk certified seed from that site.

III. SAMPLING RECOMMENDATIONS (NOT REQUIRED)

- A. A one-pound representative sample should be taken from each truck as it is filling the bin. The sample should be labeled with certification/lot number and delivery date.
- B. A one-pound representative sample should be taken from each bulk sale. The sample should be labeled with certification/lot number and customer identification.

IV. INSPECTION

Facility inspection by the applicant is required as part of the application procedure for site approval. In addition, KCIA may at its discretion inspect (at its own cost) without advance notification any BDC, its facilities, records, personnel, etc. during regular business hours. Should deficiencies be discovered during any inspection, the BDC applicant will be given notification. Once deficiencies are corrected, the BDC applicant must notify KCIA to obtain permission for resumption of use. If an additional inspection is necessary, appropriate fees may be charged.

V. SEED RETURNS

- A. Seed, once retail sale and delivery has been made, may not be returned.
- B. At the applicant's discretion, unsold seed remaining in the bin may be returned to the applicant's principle place of business.

VI. LABELING

Seed must be properly labeled for sale. The Kansas Crop Improvement Association Bulk Retail Sale Certificate or an official certification label attached to an invoice (bulk invoice label) must accompany each retail delivery of bulk Kansas certified seed.

VII. EDUCATION

It is the applicant's responsibility to instruct designated representatives about the standards and procedures to be followed by the bulk distribution centers.

KANSAS CROP IMPROVEMENT ASSOCIATION

BULK RETAIL FACILITY STANDARDS

A Bulk Retail Facility maintains a membership at a primary location and any additional locations must be registered with KCIA if used for the retail sale of bulk seed within the boundaries of Kansas and is not owned or leased by a different certification applicant. This facility can accept the Certified and Registered classes of seed for the purpose of reselling such seed in bulk directly to the end-user.

I. APPLICATIONS

Any person or business located in the state of Kansas may make application for a Bulk Retail Facility. All applications must be made on forms provided by KCIA. Applications must be received by September 1 of each year. Varieties to be sold at each site shall be designated at the time of application. Substitution may be permitted at a later date.

II. REQUIREMENTS

A. Eligible seed

Only the Registered and Certified classes of seed that have been certified by the Kansas Crop Improvement Association and are eligible for resale may be sold through the Bulk Retail Facility. The seed must have been purchased in accordance with KCIA Standards for the resale of bulk certified seed using the resale action through the KCIA dashboard.

B. Facilities

1. A separate bin for each variety is required which cannot be contaminated from an outside source.
2. A separate bin unloading device is required for each variety. Each unloading device must be identified by the variety it is to handle.

Belt conveyors of a self-cleaning design and servicing multiple bins will be considered for use by the Bulk Retail Facility, provided that all bins serviced by the conveyor are dedicated to Kansas certified seed or are clean and empty during the period of certified seed sales activity or whenever Kansas certified seed is present in any of the bins.

3. Legal scales must be available to adequately weigh the largest vehicle which might be used.

C. Records

Complete up-to-date records must be kept which include purchaser, amount, date, certification/lot number and remaining inventory. Forms are available upon request from the KCIA office.

D. Designated representative

An individual at each Bulk Retail Facility shall be designated as responsible for all records and activities that relate to the distribution of bulk certified seed from that site.

The Bulk Retail Facility should contact the KCIA office to confirm eligibility of any seed for resale. The resale number will become the Resaler's certification number for the lot of seed.

III. SAMPLING RECOMMENDATIONS

- A. Samples from each bulk resale must be kept at the Bulk Retail Facility for at least one (1) year from the last date of sale for in-state sales and three (3) years for interstate sales according to state and federal laws.

- B. A one-pound representative sample should be taken from each truck as it is filling the bin. The sample should be labeled with certification/lot number and delivery number.
- C. A one-pound representative sample should be taken from each bulk sale. The sample should be labeled with certification/lot number and delivery number.

IV. INSPECTIONS

An initial scheduled inspection will be made within fourteen (14) days after application and prior to any delivery of seed for the purpose of establishing the suitability of facilities, personnel, etc. Once a location has been deemed suitable, no further inspection is required. KCIA may inspect (at its own cost) without advance notification any facility, records, personnel, etc. during regular business hours. Should deficiencies be discovered during any inspection, the Bulk Approved Retail Facility applicant will be given notification. Once deficiencies are corrected, the applicant must notify the KCIA to obtain permission for resumption of use. If an inspection is necessary, appropriate fees may be charged.

V. SEED RETURNS

Seed may not be returned from the end user to the Bulk Retail Facility.

VI. BIN REPLENISHMENT

Bins may be replenished at any time with eligible certified seed of the same variety and crop year in accordance with KCIA Standards for the movement of bulk certified seed.

If a different variety is to be used, the bin and any filling and unloading devices must be thoroughly cleaned.

VII. REPORTING

Seed Distribution and Inventory reports will be completed by each Bulk Retail Facility and sent to KCIA before December 15.

VIII. BULK SALE CERTIFICATES

The KCIA Bulk Retail Sale Certificate, or an official certification label attached to the seed invoice, must be given with each retail delivery of bulk certified seed. The Bulk Retail Facility must request Bulk Retail Sale Certificates and/or official labels directly from KCIA.

IX. APPLICANT RESPONSIBILITIES

The applicant is responsible for meeting all pertinent requirements listed in the KCIA Standards and Procedures and maintaining the quality of the seed purchased for resale through the Bulk Retail Facility.

X. EDUCATION

It is the responsibility of the designated representatives at each Bulk Retail Facility to instruct all employees about the standards and procedures to be followed. Written instructions outlining delivery, sampling, and distributing procedures must be submitted with the application.

KANSAS CROP IMPROVEMENT ASSOCIATION
APPROVED CERTIFIED SEED CONDITIONER STANDARDS

The standards, rules, regulations, and procedures contained herein apply to the conditioning of certifiable seed in Kansas when accomplished by an approved certified seed conditioner. Other standards and procedures pertaining to the certification of seed in Kansas can be found in the Kansas General Certification Standards and specific standards for individual crops.

I. GENERAL INFORMATION

For the purpose of these rules and regulations, an approved certified seed conditioner shall be defined as an individual, partnership, or corporation that meets all current requirements for conditioning certifiable seed on a custom basis, is in good standing with the organization, and has been approved by the Kansas Crop Improvement Association.

Application for becoming an approved conditioner must be made in writing to the Kansas Crop Improvement Association, located at 2000 Kimball Avenue, Manhattan, Kansas 66502. Applications must be received in the KCIA office at least thirty (30) days prior to the start of conditioning of certified seed. Fees for the initial inspection and subsequent renewal of the conditioning facilities will be based on the following schedule:

	<u>Category I</u>	<u>Category II</u>
Initial Inspection	\$200.00	\$100.00
Subsequent Renewal	\$100.00	\$50.00
Additional lines on-site will be assessed fees which are 50% of the primary fees.		
Additional lines off-site will be assessed fees which are 100% of the primary fees.		

Fees do not include membership in the Kansas Crop Improvement Association. Subsequent renewals are due January 1 each year after the initial inspection.

A. Category I Standards

In addition to conditioning Kansas certifiable seed on a custom fee basis, a Category I approved conditioner may:

1. Accept ownership of seed eligible for certification in Kansas, and who, in turn conditions the seed for sale as a class of certified seed.
2. Print certification tags for seed which will be sold with the name of the approved conditioner as the labeler.

Category I applications must be received between January 1 and March 31 of each year. Satisfactory operation as a Category II approved conditioner or its equivalent, and membership in good standing is required before upgrading to Category I status.

Before any person, partnership, or corporation is approved as a Category I approved conditioner, satisfactory proof shall be made that the conditioning plant is a fixed base operation and equipped with the following minimum equipment:

1. A cleaner equipped with at least three and preferably four or more screens for a single cleaning operation. Such cleaners must be equipped with traveling brushes, rollers, or ball racks beneath the screens adequate to dislodge any embedded material. The cleaner shall also have at least two variable air blasts and/or vacuum pickups or a combination thereof to enhance the separation ability of the equipment. A selection of screens sufficient to provide optimum cleaning for each crop is required. The intent of this requirement is that all Kansas certified seed be conditioned with an air-screen cleaner as the primary conditioning machine. Subsequent use of a length separator, gravity table, or other finishing equipment may be used to further condition the seed. A length separator or gravity table must be in the conditioning line when conditioning wheat and a gravity table or spiral must be in the conditioning line when conditioning soybeans.
2. The facility must be equipped with at least one bin that can be thoroughly and completely cleaned.
3. If more than one holding bin is used, intakes to bins must be such that they can be completely blocked off during the period the bin contains certified seed. All bins in which certifiable seed is to be stored must be so located that there will be no possible source of contamination from above.
4. The surge bin over the seed-receiving hopper must be designed to maintain a “full choke feed” during the conditioning of seed lots.
5. All dumps, elevator heads, elevating equipment, distributors, spouting and elevator legs must be such that they can be completely, quickly and easily cleaned, and are to be used only for servicing the seed conditioning equipment while cleaning seed.
6. If cleaned seed is to be elevated, a separate leg or elevator is required in addition to the receiving leg or elevator.
7. Facilities requesting approval for the conditioning of small seeded legumes must be equipped with a velvet roll machine in addition to equipment listed above. Gravity tables are also recommended in addition to the equipment mentioned above.
8. It is recommended, but not required, that the plant be equipped with a seed treater for the purpose of disinfecting planting seeds.
9. All other equipment such as packaging equipment, scarifiers, inoculation devices, blenders, etc., must be so designed and operated to allow complete cleanout.
10. Forced air and vacuum cleaning equipment shall be adequate to positively clean all otherwise inaccessible areas of equipment and structural members.
11. Bagging, bag weighing, bag storage, and bulk storage shall be adequate to maintain seed quality and quantities.
12. Equipment used to clean rye or triticale may not be used to condition certified cereal crop seed during the same crop year.

B. Category II Standards

Category II approved conditioner may condition certifiable seed as a stationary and/or portable unit based upon the capabilities of the equipment. Before any person, partnership or corporation is approved as a Category II conditioner, satisfactory proof shall be made that the conditioning plant or mobile conditioning unit is equipped with the following minimum equipment:

1. A cleaner equipped with at least three and preferably four or more screens for a single cleaning operation. Such cleaners must be equipped with traveling brushes, rollers, or ball racks beneath the screens adequate to dislodge any embedded material. The cleaner shall also have a variable air blast and/or vacuum pickup to enhance the separation ability of the equipment. A selection of screens sufficient to provide optimum cleaning for each crop is required. The intent of this requirement is that all Kansas certified seed be conditioned with an air-screen cleaner as the primary conditioning machine. Subsequent use of a length separator, gravity table, or other finishing equipment may be used to further condition the seed.
2. The facility or mobile unit must be equipped with a surge bin over the seed receiving hopper of sufficient size or design to maintain a “full choke feed” during the conditioning of the seed lots. This bin or system shall be designed so that it can be completely cleaned.
3. If more than one holding bin is used, intakes to bins must be such that they can be completely blocked off during the period the bin contains certifiable seed. All bins in which certifiable seed is to be stored must be so located that there will be no possible source of contamination from above.
4. All hoppers, elevating equipment, distributors, spouts, augers, and all other seed conveyors and containers must be designed to allow complete, quick and easy cleanout.
5. If cleaned seed is to be elevated, a separate elevator leg or auger is required to move the clean seed.
6. All accessory equipment such as seed treaters, blenders, secondary finishing equipment, etc. must be designed to allow complete, quick and easy cleanout.
7. Facilities or mobile units must be equipped with vacuum cleaning equipment and forced air to enable the operator to properly clean the machine between lots of seed.
8. Equipment used to clean rye or triticale may not be used to condition certified cereal crop seed during the same crop year.
9. Facilities or mobile units requesting approval for the conditioning of small seeded legumes must be equipped with a velvet roll mill in addition to the equipment listed above. Gravity tables are also recommended.
10. Bagging, bag weighing, bag storage, and bulk storage shall be adequate to maintain seed quality and quantities.

II. INSPECTIONS

Each approved certified seed conditioning plant will be formally inspected by a KCIA representative upon initial application and inspected thereafter when any change in equipment or personnel occurs. Each formal inspection will be scheduled at least one week in advance. Additional unannounced inspections may be made at any time. Inspections may be requested by either the conditioner or grower. At least thirty (30) days notice should be given to the KCIA office for such inspections. Deficiencies noted during any inspection must be listed on the inspection report submitted to the KCIA office. Such deficiencies must be reviewed with the official representative for the seed plant, and a subsequent inspection scheduled to verify corrections made.

III. NEW TECHNOLOGY DEVELOPMENTS

Exceptions may be made as new technology becomes available for machines not meeting the requirements contained herein but which can adequately condition seed. Such exceptions will be made upon the recommendation of the staff and the approval of the KCIA Board of Directors or their appointed representative(s).

**KANSAS CROP IMPROVEMENT ASSOCIATION
GROWER/CONDITIONER STANDARDS**

I. GENERAL INFORMATION

- A. For the purpose of these rules and regulations, an approved grower/conditioner shall be defined as an individual, partnership, or corporation that meets all current requirements for conditioning their own certifiable seed, is in good standing with the organization, and has been approved by the Kansas Crop Improvement Association. Grower/conditioners may not clean certifiable seed on a custom basis.
- B. Application for becoming a grower/conditioner must be made in writing to the Kansas Crop Improvement Association, located at 2000 Kimball Avenue, Manhattan, Kansas 66502. Application and fee payment must be received in the KCIA office at least thirty (30) days prior to the start of conditioning of certified seed. Current fees are \$25.00 for new applications and \$10.00 for annual renewal. Fees do not include membership in the Kansas Crop Improvement Association. Subsequent renewals are due January 1 each year after the initial inspection.
- C. Facilities must be inspected and approved by Kansas Crop Improvement Association prior to the conditioning of any seed for certification.

II. REQUIREMENTS

- A. A minimum of a two screen, one air machine (commonly referred to as a “fanning mill” cleaner) will be used as the principle piece of conditioning equipment. One of the screens must be used for scalping and another for sizing or sieving. The air must be controllable. An adequate selection of screens should be available for the intended conditioning.
- B. The grower/conditioner must have enclosed on-farm storage for all seed crops that is adequate to keep them separate by kind and variety.

III. RECOMMENDATIONS (not required)

It is recommended that forced air, compressed air, and/or vacuum air be available for use in the cleanup of conditioning equipment.

IV. APPLICANT RESPONSIBILITIES

The grower/conditioner should have knowledge of the proper procedures for certification and conditioning of seed.

V. SCALES

If applicable, the grower/conditioner should have access to bag and truck scales.

VI. EDUCATION

Any new grower/conditioner must have at least one year of previous experience or adequate training (such as the KCIA Seed Technology Clinic) before being approved.

KANSAS CROP IMPROVEMENT ASSOCIATION
ALFALFA SEED CERTIFICATION STANDARDS

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of alfalfa seed.

II. CLASSES OF CERTIFIED SEED

Alfalfa varieties shall be on the limited generation system. The Foundation class will produce the Registered class; the Registered class will produce the Certified class. The Certified class is not eligible for recertification. Some varieties may not have the option of a Registered class. Certified seed production outside the region of adaptation shall not exceed six years if not otherwise specified by the originator or their designee.

III. LAND REQUIREMENTS

A. Foundation Seed

Breeder seed for the production of Foundation seed shall be planted only on land on which no alfalfa has been seeded or grown for at least the preceding six years, during three or more of which the land was cultivated or chemically fallowed. The land must be free from volunteer plants as determined by a field inspection during the seedling year. (The seedling inspection is to be applied for immediately after planting.)

B. Registered Seed

Breeder or Foundation seed for the production of Registered seed shall be planted only on land on which no alfalfa has been seeded or grown for at least the preceding four years, during two or more of which the land was cultivated or chemically fallowed. The time interval may be omitted if the last seed crop was of the same variety and met Foundation seed requirements.

C. Certified Seed

Breeder, Foundation, or Registered seed for the production of Certified seed shall be planted only on land on which no alfalfa has been seeded or grown for at least the preceding three years. The time interval may be shortened if one cultivated crop, chemical fallow, or clean fallow has intervened, and the time interval may be omitted if the last seed crop was of the same variety and met Foundation or Registered seed requirements.

D. On land being seeded to alfalfa for the first time, cultivation requirements listed above are waived.

E. No manure or other contaminating material shall be applied one year preceding or during the establishment and productive period of the stand. Any grazing of livestock that permits the distribution of contaminating seed should not be permitted.

IV. FIELD INSPECTION

A. A field of alfalfa to be eligible for certification shall be inspected in the field when the crop to be saved for seed is in full bloom.

B. Inspections may be made without giving previous notice to the grower.

V. FIELD STANDARDS

A. General Requirements

1. The field shall be considered the unit of certification

A field cannot be divided after inspection for the purpose of certification. A field is an area of land bounded by (a) a fence; (b) a road; (c) another crop from which alfalfa does not require isolation; or (d) a strip of cultivated ground, a ditch, or some other distinct line of demarcation at least six feet wide. (This distance should not be confused with isolation requirements.)

2. Isolation

A field producing Foundation, Registered, or Certified seed must have the minimum isolation distance, as given in the table below, from (a) fields of any other variety of alfalfa or (b) fields of the same variety that do not meet varietal purity and seed history requirements for production of a class of seed equal to or higher than that to be produced from the field being inspected:

<u>Class*</u>	<u>Fields of five acres or less</u>	<u>Fields of five acres or more</u>
Foundation	900 feet	600 feet
Registered	450 feet	300 feet
Certified	165 feet	165 feet

**Isolation distance between classes of the same variety may be reduced to 25% of that indicated.*

3. Volunteer Plants

Volunteer plants shall be cause for rejection or reclassification of a seed production field.

B. Specific Requirements

1. The following table indicates the maximum tolerance of impurities allowed in fields of alfalfa eligible for certification as determined by field examination:spe

<u>Factor</u>	<u>Maximum Permitted in Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Other varieties*	1 plant/1000 (0.1%)	1 plant/1000 (0.1%)	1 plant/500 (0.2%)
Sweetclover	1 plant/acre	1 plant/acre	2 plants/acre

**Other varieties shall be considered to include off-type plants that can be differentiated from the variety that is being inspected.*

2. Prohibited Weeds (*continued on next page*)

Fields containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

- Dodder** (Cuscuta spp.)
- Field bindweed** (Convolvulus arvensis)
- Hoary cress** (Cardaria draba)
- Leafy spurge** (Euphorbia esula)
- Perennial sorghum** including, but not limited to,
 - Johnsongrass** (Sorghum halepense) and
 - Sorghum alnum** (Sorghum x alnum)
- Russian knapweed** (Acroptilon repens)

Musk thistle (Carduus nutans)

Fields infested with these weeds may be passed for certification subject to a detailed laboratory examination of a one-pound inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, or killed by chemical treatment before the time of inspection.

3. **Objectionable Weeds**

A field found to contain the following objectionable weeds at inspection time may be passed for certification, subject to a detailed laboratory examination of a one-pound inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

Buckhorn plantain (Plantago lanceolata)

Canada thistle (Cirsium arvense)

Cheat and chess (Bromus spp.)

Dock (Rumex spp.)

Dogbane (Apocynum spp.)

Hedge or hairy bindweed (Calystegia sepium)

Horsenettle or bullnettle (Solanum carolinense)

Pennycress (Thlaspi arvense)

Perennial sowthistle (Sonchus)

Quackgrass (Elytrigia repens)

Velvetleaf (Abutilon theophrasti)

Water smartweed (Polygonum amphibium var. emersum)

Wild mustard (Brassica spp.)

VI. SEED SAMPLES AND SAMPLING

A sample of at least one (1) pound, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed.

VII. SEED STANDARDS

A. The cleaned seed inspection sample or subsequently drawn one-pound samples shall meet the following requirements for certification:

Factor	Standards for Each Class		
	Foundation	Registered	Certified
Total germination and hard seed (minimum)	80.00%	80.00%	80.00%
Pure seed (minimum)	99.00%	99.00%	99.00%
Inert matter (maximum)	1.00%	1.00%	1.00%
Other varieties (maximum)	0.01%	0.05%	0.10%
but not to exceed	9/lb.	9/lb.	9/lb.
Sweetclover (maximum)	0.02%	0.04%	0.08%
but not to exceed	40/lb.	100/lb.	200/lb.
Total weed seed (maximum)	0.02%	0.05%	0.10%
but not to exceed	40/lb.	100/lb.	200/lb.
Prohibited or objectionable weed seed*	None	None	None

**As listed in Section V.B.2 and V.B.3 of these standards.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. Except as noted in Section VII.B of these standards, if deferred because of separable objectionable weed seed as listed in Section V.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a one-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

**KANSAS CROP IMPROVEMENT ASSOCIATION
BARLEY SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of barley seed.

II. LAND REQUIREMENTS

A field of barley is not eligible for certification if planted on land that grew barley or had barley planted on it during the previous 12 months unless certified seed of the same variety was used.

III. FIELD INSPECTION

- A. A field of barley for certification shall be inspected by a representative of the Kansas Crop Improvement Association after the crop has begun to ripen but before harvest, the crop automatically becoming ineligible for certification if harvested before the field inspection is made.
- B. Inspection may be made without giving previous notice to the applicant.

IV. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land clearly defined by distinct lines of demarcation.

2. Isolation.

- (a) A field of barley for certification shall be isolated from any other barley variety and/or from barley of the same variety that does not meet the varietal purity and seed history requirements for certification by at least the following distances:

Foundation	50 feet
Registered	30 feet
Certified	20 feet

- (b) A field of barley for certification shall be separated from wheat, oats, or rye by a permanent mark such as a fence, a road, a strip of ground, a ditch, or some other distinct line of demarcation at least six feet wide.

B. Specific Requirements

- 1. The following table gives the maximum tolerance of diseases and impurities allowed in a field of barley eligible for certification:

<u>Factor</u>	<u>Maximum Permitted in Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Other varieties*	1 head in 15,000 (0.007%)	1 head in 10,000 (0.01%)	1 head in 5,000 (0.02%)
Wheat, oats (total)	1 head in 10,000 (0.01%)	1 head in 10,000 (0.01%)	2 heads in 10,000 (0.02%)
Covered smut**	1 plant/acre	2 plants/acre	3 plants/acre
Loose smuts	5 heads in 1,000 (0.50%)	10 heads in 1,000 (1.00%)	20 heads in 1,000 (2.00%)

**Other varieties shall include plants (or heads) that can be differentiated from those of the variety being analyzed but shall not include variations which are characteristic of the variety.*

***If this disease is present in the production field but does not exceed the maximum tolerance, the seed must be treated to control seed-borne disease organisms before it is finally approved for distribution as certified seed.*

2. Prohibited weeds

A field of barley containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

Canada thistle (Cirsium arvense)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Leafy spurge (Euphorbia esula)

Russian knapweed (Acroptilon repens)

Perennial sorghum including, but not limited to,

Johnsongrass (Sorghum halepense)

Sorghum alnum (Sorghum x alnum)

A field infested with these weeds may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Prohibited crops

A field of barley containing uncontrolled areas of the following prohibited crops shall not be eligible for certification regardless of the state of maturity of the crops at the time of inspection.

Rye (Secale cereale subsp. cereale)

Triticale (xtriticosecale) including hybrid of wheat x triticale

A field infested with these crops may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the rye and/or triticale is plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

4. Objectionable Weeds and Crops

A field of barley containing the following objectionable weeds or crops at inspection time may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

Bur ragweed (Ambrosia grayi)

Cheat/japanese brome/downy brome (all Bromus spp. except B.inermis)

Dock (Rumex spp.)

Jointed goatgrass (Aegilops cylindrica) including hybrid of wheat x jointed goatgrass

Hedge bindweed (Calystegia sepium)

Morningglory (Ipomoea spp.)

Pennycress (Thlaspi arvense)

Quackgrass (Elytrigia repens)

Wild buckwheat (Polygonum convolvulus)

Wild mustard (Brassica spp.)

Wild onion or wild garlic (Allium spp.)

Wild oats (Avena fatua L.)

V. SEED SAMPLES

A sample of at least ten (10) pounds, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed.

VI. SEED STANDARDS *(continued on next page)*

A. The cleaned seed inspection sample or subsequently drawn ten-pound samples shall meet the following requirements for certification:

Factor	Standards for Each Class		
	Foundation	Registered	Certified
Pure Seed (minimum)	98.00%	98.00%	98.00%
Inert matter (maximum)	2.00%	2.00%	2.00%
Weed seed (maximum)	0.10%	0.20%	0.20%
but not to exceed	5/lb.	10/lb.	15/lb.
Prohibited weed seed*	None	None	none
Objectional weed/crop seed*			
Morningglory	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Cheat	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Wild buckwheat	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Goatgrass seed unit	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Other	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Other crop seed (excluding wheat/oats)	1/lb.	1/lb.	1/lb.
Wheat, oats (maximum total)	1.5/lb.	1.5/lb.	2.5/lb.
Other varieties** (maximum)	1 in 2 lbs.	1/lb.	2/lb.
Germination (minimum)	85.00%	85.00%	85.00%

**As listed in Section IV.B.2 and IV.B.3 of these standards.*

***Other varieties shall include seeds that can be differentiated from those of the variety being analyzed but shall not include variations which are characteristic of the variety.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. If deferred because of separable objectionable weed seed listed in Section IV.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

**KANSAS CROP IMPROVEMENT ASSOCIATION
HYBRID CORN SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

- A. The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of commercial corn hybrid seed.
- B. The general certification standards are amplified as follows to apply specifically to commercial corn hybrid seed:
 - 1. Classes of Certified Seed
 - (a) To be certified, a commercial corn hybrid must be produced from certified Foundation seed stock.
 - (b) Only the class “Certified” is recognized.

II. LAND REQUIREMENTS

There are no restrictions as to previous crop.

III. FIELD INSPECTION

- A. Inspection Before Pollination

A field in which commercial corn hybrid seed is being produced for certification shall be inspected by a representative of the Kansas Crop Improvement Association at least once before pollination begins for purity of parent stock and isolation. Any off-type or doubtful plants shall be destroyed before they shed pollen.
- B. Inspection During Pollination

During the pollinating period a field in which commercial corn hybrid seed is being produced for certification shall be inspected one or more times by a representative of the Kansas Crop Improvement Association. Inspections may be made without giving previous notice to the producer. The main purpose of these inspections is to check on the thoroughness of male sterilization or detasseling of the seed (female) parent.

IV. FIELD STANDARDS

- A. General Requirements
 - 1. Unit of certification
 - (a) The unit of certification shall be a field, but a portion of a field may be approved for certification, provided the remainder is harvested separately and the seed excluded from certification.
 - (b) A field is an area of land clearly defined by distinct lines of demarcation and used for the production of seed of one commercial corn hybrid.
 - (c) The entire field of any one commercial corn hybrid grown by and/or belonging to one applicant and used for seed production must be eligible for certification and must be inspected.

2. Isolation

- (a) Dent corn: A field producing hybrid dent corn seed for certification shall be located so that the seed (female) parent is not less than 40 rods (660 feet) from other corn of a different kernel color or type (sweet, pop, flint, etc.) in all directions including diagonal.
- (b) Popcorn: A field producing hybrid popcorn seed for certification shall be located so that the seed (female) parent is not less than 60 rods (990 feet) from corn of different kernel type and not less than 40 rods (660 feet) from any other popcorn, in all directions including diagonal.
- (c) Corn within the isolation distance that does not shed pollen at the time the seed (female) parent is in silk need not prevent certification because of isolation requirements.
- (d) Border rows: When the kernel type and color of corn located within the isolation distance specified above are the same as those of the parents in the crossing field, isolation distances may be modified, depending on the acreage of the seed production field, by the planting of border rows of pollen (male) parent. The following table applies to all sides of the seed production field exposed to contamination from other corn, whether located directly opposite or diagonally, and indicates the minimum number of border rows required for seed production areas of various sizes located at different distances from other corn:

<u>Acreage of Crossing Field</u>								<u>Border Rows Required</u>
<u><9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30-34</u>	<u>35-39</u>	<u>40+</u>	
40	39	38	37	36	35	34	33	1
37.5	36.5	35.5	34.5	33.5	32.5	31.5	30.5	2
35	34	33	32	31	30	29	28	3
32.5	31.5	30.5	29.5	28.5	27.5	26.5	25.5	4
30	29	28	27	26	25	24	23	5
27.5	26.5	25.5	24.5	23.5	22.5	21.5	20.5	6
25	24	23	22	21	20	19	18	7
22.5	21.5	20.5	19.55	18.5	17.5	16.5	15.5	8
20	19	18	17	16	15	14	13	9
17.5	16.5	15.5	14.5	13.5	12.5	11.5	10.5	10
15	14	13	12	11	10	9	8	11
12.5	11.5	10.5	9.5	8.5	7.5	6.5	5.5	12
10	9	8	7	6	5	4	3	13
7.5	7.5	7.5	4.5	3.5	2.5	1.5	0.5	14
7.5	7.5	7.5	2	1	0	0	0	15
5	5	5	0	0	0	0	0	16

In using the table to determine the number of border rows of pollen (male) parent required, follow down the column indicating the correct acreage to the figure indicating most nearly the correct distance in rods from the other corn. Then follow across to the extreme right column to find the minimum number of border rows necessary. The maximum number of rows countable as border shall be 16.

The border rows, when used, must be adjacent to the seed production field. The distance between border rows and the seed (female) parent shall not be greater than one rod (16.5 feet). The distance occupied by the border rows shall count as a part of the total isolation distance. Each border row shall have at least an average stand of plants and shall be in the same stage of development as the pollen (male) parent in the crossing field.

B. Specific Requirements

1. Purity of parents

A field which contains, at any one inspection, more than one-tenth of one percent (0.1%) definite off-type or more than two percent (2%) doubtful type plants that have shed or are shedding pollen when five percent (5%) or more of the seed (female) plants in the field have receptive silks shall not be certified.

2. Detasseling fertile seed (female) parents

All tassels of a fertile seed (female) parent in a seed production field shall be removed before they have begun to shed pollen. The detasseling shall be so thoroughly done that following the beginning of the silking period of the seed (female) parent, the maximum number of seed (female) parent tassels allowed to shed is not greater than one percent (1%) for any one inspection, or greater than two percent (2%) for any three inspections made on different dates. Parts of tassels and sucker tassels shedding pollen will be included in the count.

3. Male-sterile seed (female) parent

A male-sterile seed (female) parent can be used to produce certified commercial corn hybrid seed by either of two methods:

- (a) Hybrid seed from the normal fertile seed (female) parent must be mixed with hybrid seed from the male-sterile seed (female) parent of the same pedigree either by blending in the field at harvest or by size at processing time. The ratio of male-sterile seed (female) parent seed to normal seed (female) parent seed shall not exceed two to one (2:1).
- (a) The pollen (male) parent used must involve a certified pollen restoring line (or lines) so that not less than one-third (1/3) of the plants grown from the hybrid corn seed produce pollen which appears to be normal in quantity and viability.

V. SEED STANDARDS

- A. A sample of at least two (2) pounds, representing each grade of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed. The seed shall meet the following requirements for certification:

<u>Factor</u>	<u>Foundation</u>
Pure seed (minimum)	99.00%
Inert matter (maximum)	1.00%
Weed seed (maximum)	None
Other crop seed	None
Other kinds (maximum)	None
Other varieties (maximum total)	0.10%
Doubtful off-type kernels (maximum)	2.00%
Germination (minimum)	90.00%
Moisture (maximum)	14.00%

**KANSAS CROP IMPROVEMENT ASSOCIATION
FORBS (WILDFLOWERS) CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of forbs (wildflowers) seed.

II. CLASSES OF CERTIFIED SEED

Varieties of forbs shall be on the limited generation system. The Foundation class will produce the Registered class; the Registered class will produce the Certified class. The Certified class is not eligible for recertification.

III. LAND REQUIREMENTS

A. Foundation Seed

Breeder seed for the production of Foundation seed shall be planted only on land on which no forbs of the same species have been seeded or grown for at least the preceding two years, during one or more of which the land was cultivated. The land must be free from volunteer plants as determined by a field inspection during the seedling year. (The seedling inspection is to be applied for immediately after planting.)

B. Registered Seed

Breeder or Foundation seed for the production of Registered seed shall be planted only on land on which no forbs of the same species have been seeded or grown for at least the preceding two years, during one or more of which the land was cultivated. The time interval may be omitted if the last seed crop was of the same variety and met Foundation seed production requirements.

C. Certified Seed

Breeder, Foundation, or Registered seed for the production of Certified seed shall be planted only on land on which no forbs of the same species have been seeded or grown for at least the preceding two years. The time interval may be shortened one year if one cultivated crop or clean fallow has intervened. The time interval may be omitted if the last seed crop was of the same variety and met foundation or registered seed requirements.

D. No manure or other contaminating material shall be applied one year preceding or during the establishment and productive period of the stand. Any grazing of livestock that permits the distribution of contaminating seed should not be permitted.

IV. FIELD INSPECTION

A. A field of forbs to be eligible for certification shall be inspected in the field when the crop to be saved for seed is in full bloom.

B. Inspections may be made without giving previous notice to the grower.

V. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land bounded by (a) a fence; (b) a road; (c) another crop from which forbs do not require isolation; or (d) a strip of cultivated ground, a ditch, or some other distinct line of demarcation at least six feet wide. (This distance should not be confused with isolation requirements.)

2. Isolation

A field producing Foundation, Registered, or Certified seed must have the minimum isolation distance, as given in the table below, from (a) fields of any other variety of forbs of the same species, or (b) fields of the same variety that do not meet the varietal purity and seed history requirements for production of a class of seed equal to or higher than that to be produced from the field being inspected:

<u>Class*</u>	<u>Cross Pollinated</u>	<u>Self Pollinated</u>
	<u>Species</u>	<u>Species</u>
Foundation	900 feet	165 feet
Registered	900 feet	165 feet
Certified	900 feet	80 feet

**Isolation distance between classes of the same variety may be reduced to 25% of that indicated.*

3. Volunteer Plants

Volunteer plants shall be cause for rejection or reclassification of the seed production field.

B. Specific Requirements

1. The following table indicates the maximum tolerance of impurities allowed in fields of forbs eligible for certification as determined by field examination:

<u>Factor</u>	<u>Maximum Permitted in Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Other varieties*	1 plant in 1,000 (0.01%)	1 plant in 1,000 (0.01%)	1 plant in 1,000 (0.01%)

**Other varieties shall be considered to include off-type plants that can be differentiated from the variety that is being inspected.*

2. Prohibited weeds (*continued on next page*)

Fields containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

Dodder (Cuscuta spp.)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Leafy spurge (Euphorbia esula)

Musk thistle (Carduus nutans)

Russian knapweed (Acroptilon repens)

Perennial sorghum including, but not limited to,

Johnsongrass (Sorghum halepense)

Sorghum almum (Sorghum x almum)

Western ragweed (Franseria tomentosa)

Fields infested with these weeds may be approved for certification subject to a detailed laboratory examination of a two-pound inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, or killed by chemical treatment before the time of inspection.

3. Objectionable weeds and crops

A field found to contain the following objectionable weeds at inspection time may be approved for certification, subject to a detailed laboratory examination of a two-pound inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

Buckhorn plantain (Plantago lanceolata)

Canada thistle (Cirsium arvense)

Cheat/japanese brome/downy brome (all Bromus spp.)

Dock (Rumex spp.)

Dogbane (Apocynum spp.)

Hedge or hairy bindweed (Calystegia sepium)

Horsenettle or bullnettle (Solanum carolinense)

Morningglory (Ipomoea spp.)

Pennycress (Thlaspi arvense)

Perennial sowthistle (Sonchus arvensis)

Quackgrass (Elytrigia repens)

Swamp smartweed (Polygonum coccineum)

Velvetleaf (Abutilon theophrasti)

Wild mustard (Brassica spp.)

Wild onion or wild garlic (Allium spp.)

VI. SEED SAMPLES AND SAMPLING

A sample of at least one half (1/2) pound (for those forbs with seed size approximating sorghum), or one fourth (1/4) pound (for small seeded varieties), representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed.

VII. SEED STANDARDS

- A. The cleaned seed inspection sample or subsequently drawn ten-pound samples shall meet the following requirements for certification:

1. *Thickspike Gayfeather* (*Liatris pycnostachya* Michx.)

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	85.00%	80.00%	80.00%
Inert matter (maximum)	15.00%	20.00%	20.00%
Weed seed (maximum)	0.30%	0.30%	0.30%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	1.00%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.25%
Germination and dormant (minimum)	60.00%	60.00%	60.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

2. *Purple Prairieclover* (*Petalostemum purpureum*)

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	95.00%	95.00%	95.00%
Inert matter (maximum)	5.00%	5.00%	5.00%
Weed seed (maximum)	0.20%	0.40%	1.00%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	0.10%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.25%
Germination and dormant (minimum)	60.00%	60.00%	60.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

3. *Pitcher Sage* (*Salvia azurea* Lam. var. *grandiflora* Benth.)

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	90.00%	90.00%	90.00%
Inert matter (maximum)	10.00%	10.00%	10.00%
Weed seed (maximum)	0.30%	0.30%	0.30%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	1.00%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.25%
Germination and dormant (minimum)	25.00%	25.00%	25.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

4. *Maximilian Sunflower (Helianthus maxiliani)*

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	90.00%	90.00%	90.00%
Inert matter (maximum)	10.00%	10.00%	10.00%
Weed seed (maximum)	0.20%	0.40%	1.00%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	1.00%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.25%
Germination and dormant (minimum)	60.00%	60.00%	60.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

5. *Grayhead Prairieconeflower (Ratibida pinnata)*

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	90.00%	90.00%	90.00%
Inert matter (maximum)	10.00%	10.00%	10.00%
Weed seed (maximum)	0.20%	0.40%	1.00%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	1.00%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.25%
Germination and dormant (minimum)	60.00%	60.00%	60.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

5. *Roundhead Lespedeza (Lespedeza capitata)*

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	98.00%	95.00%	90.00%
Inert matter (maximum)	2.00%	2.00%	5.00%
Weed seed (maximum)	0.10%	0.10%	0.20%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	1.00%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.25%
Germination and dormant (minimum)	90.00%	80.00%	75.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

6. *Partridge Pea* (*Chamaecrista fasciculata*)

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	98.00%	97.00%	97.00%
Inert matter (maximum)	3.00%	3.00%	5.00%
Weed seed (maximum)	0.10%	0.10%	0.20%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	0.10%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.25%
Germination and dormant (minimum)	70.00%	70.00%	70.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

7. *False Sunflower* (*Heliopsis helianthoides* var.scabra)

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	97.00%	95.00%	90.00%
Inert matter (maximum)	3.00%	3.00%	10.00%
Weed seed (maximum)	0.20%	0.20%	0.50%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	1.00%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.25%
Germination and dormant (minimum)	60.00%	60.00%	50.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

8. *Illinois Bundleflower* (*Desmanthus illinoensis*)

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	99.00%	99.00%	95.00%
Inert matter (maximum)	1.00%	1.00%	5.00%
Weed seed (maximum)	0.10%	0.10%	0.20%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed** (maximum)	0.20%	1.00%	2.00%
Other varieties (maximum)	0.10%	1.00%	2.00%
Other kinds of crops (maximum)	0.10%	0.10%	0.50%
Germination and dormant (minimum)	60.00%	60.00%	60.00%

*As listed in Section V.B.2 and V.B.3 of these standards.

**But never to exceed 0.25% seed of other forbs species.

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. If deferred because of separable objectionable weed seed listed in Section V.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

**KANSAS CROP IMPROVEMENT ASSOCIATION
GRASS SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of grass seed.

II. CLASSES OF SEED

Grass varieties shall be on the limited generation system. The Foundation class will produce the Registered class; the Registered class will produce the Certified class. The Certified class is not eligible for recertification, with the following exception: Unlimited recertification of the Certified class may be permitted for older varieties released prior to 1970 where Foundation seed is not being maintained.

Fields sown with the appropriate class of certified seed will be eligible to produce certified seed in accordance with the following table:

<u>Class of seed sown</u>	<u>Limited Generation</u>
Foundation	10 years as Registered class
Registered	No limit of Certified class
Certified	0

A grace period of one year is allowed for stand establishment, not to be counted against the ten years of total production of registered seed.

III. LAND REQUIREMENTS

A. Foundation Seed

Breeder seed for the production of Foundation seed shall not be planted on land where the same species has been seeded or grown anytime during the preceding five years.

B. Registered Seed

Breeder or Foundation seed for the production of Registered seed shall not be planted on land where the same species has been seeded or grown any time during the preceding three years, unless the last crop harvested met the requirements for Foundation seed of the same variety.

C. Certified Seed

Breeder, Foundation, Registered, or Certified seed for the production of certified seed shall not be planted on land where the same species has been seeded or grown anytime during the preceding two years, unless the last seed crop harvested met the requirements for production of a class of seed of the same variety equal to or higher than that to be produced.

D. No contaminating materials containing viable seeds shall be applied one year preceding or during the establishment and productive period of the stand. The feeding of grass hay to livestock on land that is producing certified seed is prohibited. Any grazing of livestock that permits the distribution of contaminating seed should not be permitted.

IV. FIELD INSPECTION

- A. A field inspection must be made each year that a Foundation, Registered or Certified seed crop is to be harvested.
- B. A field inspection must be made after heading but before harvest; the crop automatically becomes ineligible for certification if harvested before the field inspection is made.
- C. Inspection may be made without giving prior notice to the grower.

V. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land bounded by (a) a fence; (b) a road; (c) another crop from which the species being inspected does not require isolation or (d) a strip of cultivated ground, a ditch, or some other distinct line of demarcation at least six feet wide. (This distance should not be confused with isolation requirements.)

2. Isolation

A field producing Foundation, Registered, or Certified seed must have the minimum isolation distance, as given below, from (a) fields of any other variety of the same species (except for diploids and tetraploids of the same species, in which a minimum of 15 feet of isolation between diploids and tetraploids is sufficient), or (b) fields of the same variety that do not meet varietal purity and seed history requirements for production of a class of seed equal to or higher than that to be produced from the field being inspected:

<u>Class*</u>	<u>Minimum Isolation</u>	
	<u>Cross-pollinated species</u>	<u>80% or greater apomictic or highly self-fertile species</u>
Foundation	1320 feet	60 feet
Registered	660 feet	30 feet
Certified	165 feet	15 feet

**When different classes of certified seed of the same variety are being grown on adjacent fields, the isolation requirement may be reduced to 25% of the distance above.*

3. Border Removal for grass isolation

If it is not possible to provide minimum isolation distance for fields exceeding five acres in area, border removal should be permitted. Border removal is the removal, after flowering, of a portion of the seed field adjacent to the contamination source as indicated in the following table:

<u>Distance from another variety (Certified class)</u>	<u>Border to be taken as non-certified after flowering</u>
0 ft. to 75 ft.	90 minus (0 ft. to 75 ft.)*
75 ft. to 105 ft.	15 feet
105 ft. to 165 ft.	9 feet
165 ft. and beyond	0 feet

**Subtract the number of feet that falls within the distance in parentheses from the number on the left to arrive at the amount of border removal.*

B. Specific Requirements

1. Other varieties

The maximum tolerance of other varieties of the same species in fields inspected for certification shall be:

<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
None	1 in 500	1 in 100
	0.2%	1.0%

Other varieties shall be considered to include off-type plants that can be differentiated from the variety that is being inspected.

2. Prohibited weeds.

Fields containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the state of maturity of the weeds at the time of inspection:

Bur ragweed (Ambrosia grayi)

Canada thistle (Cirsium arvense)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Leafy spurge (Euphorbia esula)

Musk thistle (Carduus nutans)

Perennial sorghum including, but not limited to

Johnsongrass (Sorghum halepense)

Perennial sweet sorgrass

Sorghum alnum (Sorghum x alnum)

Quackgrass (Elytrigia repens)

Russian knapweed (Acroptilon repens)

Fields infested with these weeds may be approved for certification, subject to a detailed laboratory examination of a one-half (1/2) pound sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, or killed by chemical treatment before the time of inspection.

3. Objectionable weeds (*continued on next page*)

A field found to contain the following objectionable weeds at inspection time may be approved for certification, subject to a detailed laboratory examination of a one-half (1/2) pound bin sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

Buckhorn plantain (Plantago lanceolata)

Black nightshade (Solanum nigrum)

Cheat or hairy chess (Bromus secalinus; Bromus commutatus)

Dock (Rumex spp.)

Dodder (Cuscuta spp.)

Giant foxtail (Setaria faberi)

Hedge or hairy bindweed (Calystegia sepium)

Horse nettle (Solanum carolinense)

Jointed goatgrass (Aegilops cylindrica)

Morningglory (Ipomoea spp.)

- Oxeye daisy** (Leucanthemum vulgare)
- Pennycress** (Thlaspi arvense)
- Perennial sowthistle** (Sonchus arvensis)
- Silverleaf nightshade** (Solanum elaeagnifolium)
- Velvetleaf** (Abutilon theophrasti)
- Wild buckwheat** (Polygonum convolvulus)
- Wild mustard** (Brassica spp.)
- Wild oats** (Avena fatua L.)
- Wild onion and wild garlic** (Allium spp.)

VI. SEED SAMPLES AND SAMPLING

A sample of at least one-half (1/2) pound, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed.

VII. SEED STANDARDS (continued on next page, Tables A and B)

- A. Tables A and B: The maximum percentage of other crop seed in all species for all classes is one percent (1.00%), but never to exceed one fourth of one percent (0.25%) seed of other grass species. The maximum percentage of other varieties in all species is 0.01% for Foundation, 0.05% for Registered and 0.10% for Certified class of seed.

Table A

Species	% Total Viable*** (minimum)	% Purity (minimum)	% Inert Matter	% Weed Seed (maximum)		Noxious or Objectionable Weed Seed
	Reg. & Cert.	All Classes	All Classes	Fnd. & Reg.	Cert.	All Classes
Alkalia Sacaton (<u>Sporobolus airoides</u>)	75	95	5	0.3	0.5	None
Brome, smooth (<u>Bromus inermis</u>)	80	85	15	0.3	1.0	None ¹
Brome, meadow (<u>Bromus beibersteinii</u>)	80	85	15	0.3	1.0	None ¹
Brome, mountain (<u>Bromus marginatus</u>)	80	85	15	0.3	1.0	None ¹
Buffalograss (<u>Buchloe dactyloides</u>) burs treated or dehulled	60	60 PLS	--	0.3	1.0	None ²
Fescue, tall (<u>Festuca arundinaces</u>)	80	95	5	0.3	0.5	None ³
Gamagrass, east. (<u>Tripsacum dactyloides</u>)	30	97	3	0.3	0.5	None
Lovegrass, sand (<u>Eragrostis trichodes</u>)	75	97	3	0.3	1.0	None
Ricegrass, indian (<u>Oryzopsis hymenoide</u>)	50	95	5	0.3	0.5	None
Orchardgrass (<u>Dactylis glomerata</u>)	85	90	5	0.3	0.5	None ¹

(table continued on next page)

Table A (continued)

<u>Species</u>	<u>% Total Viable***</u> (minimum)		<u>% Purity</u> (minimum)	<u>% Inert Matter</u>	<u>% Weed Seed</u> (maximum)		<u>Noxious or Objectionable Weed Seed</u>
	<u>Reg. & Cert.</u>		<u>All Classes</u>	<u>All Classes</u>	<u>Fnd. & Reg.</u>	<u>Cert.</u>	<u>All Classes</u>
	Switchgrass (<u>Panicum virgatum</u>)**	50		97	3	0.3	0.5
Wheatgrass, beardless/bluebunch (<u>Elytrigia spicata</u>)	80		85	15	0.3	0.5	None ³
Wheatgrass, crested (<u>Agropyron desertorum</u>)	80		90	10	0.3	0.5	None ⁴
Wheatgrass, intermediate/pubescent (<u>Elytrigia intermedia</u>)	80		90	10	0.3	0.5	None ⁴
Wheatgrass, slender (<u>Elymus trachycaulus</u>)	80		90	10	0.3	0.5	None ³
Wheatgrass, tall (<u>Elytrigia elongata</u>)	80		90	10	0.3	0.5	None ⁴
Wheatgrass, thickspike (<u>Elytrigia dasystachya</u>)	80		85	10	0.3	0.5	None ³
Wheatgrass, western (<u>Elymus smithii</u>)	60		85	15	0.3	0.5	None ³

*As listed in Secion V.B.2 and V.B.3 of these standards.

**Lowland switchgrass -- 30% germination required.

***There is no minimum Percent Live Seed or Total Viability requirement for the Foundation class.

¹None, except maximum of 200 Cheat and Hairy Chess per pound, singly or combined.

²None, except maximum 11 Giant Foxtail per pound.

³None, except maximum of 27 Cheat, Hairy Chess, and Rumex spp. total per pound, singly or combined.

⁴None, except maximum of 100 Cheat and Hairy chess per pound, singly or combined.

⁵None, except maximum of 23 Giant Foxtail per pound.

Table B

<u>Species</u>	<u>% Weed Seed</u> (max)		<u>Noxious or Objectionable Weed Seed*</u>	<u>% Other Crop seed</u> (max)**	<u>Pure Live Seed Index</u> (min)**	<u>% Seed of Other Varieties (max)</u>		
	<u>Fnd & Reg</u>	<u>Cert</u>	<u>All Classes</u>	<u>Reg & Cert</u>	<u>All Classes</u>	<u>Fnd.</u>	<u>Reg.</u>	<u>Cert.</u>
	Bluestem, big (<u>Andropogon gerardii</u>)	0.3	1.0	none	1%	40	0.01	0.05
Bluestem, little (<u>Andropogon scoparius</u>)	0.3	1.0	none	1%	25	0.01	0.05	0.10
Bluestem, sand (<u>Andropogon gerardii</u> , var. <u>aucipilus</u>)	0.3	1.0	none	1%	40	0.01	0.05	0.10
Bluestem, caucasian (<u>Bothriochloa ischaemum</u>)	0.3	1.0	none	1%	25	0.01	0.05	0.10
Bluestem, Turkestan (<u>Andropogon ischaemum</u>)	0.3	1.0	none	1%	25	0.01	0.05	0.10

(table continued on next page)

Table B (continued)

	<u>% Weed Seed (max)</u>		<u>Noxious or Objectionable Weed Seed*</u>	<u>% Other Crop seed (max)**</u>	<u>Pure Live Seed Index (min)**</u>	<u>% Seed of Other Varieties (max)</u>		
	<u>Fnd & Reg</u>	<u>Cert</u>	<u>All Classes</u>	<u>Reg & Cert</u>	<u>All Classes</u>	<u>Fnd.</u>	<u>Reg.</u>	<u>Cert.</u>
Foxtail, creeping (<i>Alopecurus partensis</i>)	0.3	1.0	none	1%	55	0.01	0.05	0.10
Gramma, blue (<i>Boutoua gracilis</i>)	0.3	1.0	None, except max. of 90 Cheat and/or Chess /lb.	1%	25	0.01	0.05	0.10
Gramma, sideoats (<i>Bouteloua acurtipenduala</i>)	0.3	1.0	None, except max. of 90 Cheat and/or Chess /lb.	1%	40	0.01	0.05	0.10
Indiangrass (<i>Sorghastrum nutans</i>)	0.3	1.0	none	1%	50	0.01	0.05	0.10
Sandreed, prairie (<i>Calamovilfa longifolia</i>)	0.3	0.5	none	1%	50	0.01	0.05	0.10

**As listed in Section V.B.2 and V.B.3 of these standards.*

***But never to exceed one-fourth of one percent (0.25%) seed of other grass species.*

****Pure live seed equals percent purity times percent germination divided by 100. The label should bear the percent germination and the percent purity. There is no minimum Percent Live Seed or Total Viability requirement for the Foundation class.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. If deferred because of separable objectionable weed seed listed in Section V.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a half-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

KANSAS CROP IMPROVEMENT ASSOCIATION
LESPEDEZA SEED CERTIFICATION STANDARDS

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

- A. The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of lespedeza seed.

II. CLASSES OF CERTIFIED SEED

Certification will be limited to a maximum of three generations of increase from Breeder seed: Foundation, Registered, and Certified. The Certified class shall not be planted for the production of certified seed.

III. LAND REQUIREMENTS

A. Foundation Seed

Breeder seed for the production of Foundation seed shall be planted only on land on which no lespedeza has been seeded or grown for at least the preceding six years, during three or more of which the land was tilled.

B. Registered Seed

Breeder or Foundation seed for the production of Registered seed shall be planted only on land on which no lespedeza has been seeded or grown for at least the preceding four years, during two or more of which the land was tilled. This time interval may be omitted if the last seed crop was of the same variety and met Foundation seed production requirements.

C. Certified Seed

Breeder, Foundation, or Registered seed for the production of Certified seed shall be planted only on land on which no lespedeza has been seeded or grown for at least the preceding three years. This time interval may be omitted if the last seed crop was of the same variety and met Foundation or Registered seed production requirements.

D. On land where lespedeza has not grown previously, tillage requirements are waived.

E. No manure or other contaminating material shall be applied one year preceding or during the year of seed production. Any grazing of livestock that permits distribution of contaminating seed shall not be permitted.

IV. FIELD INSPECTION

- A. A field of lespedeza for certification shall be inspected by a representative of the Kansas Crop Improvement Association when the crop is in full bloom.
- B. Inspection may be made without giving previous notice to the applicant.

V. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land clearly defined by distinct lines of demarcation.

2. Isolation

A field of lespedeza for certification shall be isolated from any other lespedeza variety and/or from lespedeza of the same variety that does not meet the varietal purity and seed history requirements for certification by at least the following distances:

Foundation	16.5 feet
Registered	12 feet
Certified	10 feet

B. Specific Requirements

1. The following table gives the maximum tolerance impurities allowed in a field of lespedeza eligible for certification:

Factor	Maximum Permitted in Each Class		
	Foundation	Registered	Certified
Other varieties*	1 plant in 2,000 (0.05%)	1 plant in 1,000 (0.1%)	1 plant in 500 (0.2%)
Alfalfa, red clover and second year sweetclover (total)	1 plant in 2,000 (0.05%)	1 plant in 2,000 (0.05%)	1 plant in 2,000 (0.05%)

*Other varieties shall include plants of other species of lespedeza and plants of the same species that can be differentiated from those of the variety being inspected but shall not include variations which are characteristic of the variety.

2. Noxious weeds

A field of lespedeza containing uncontrolled areas of the following noxious weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

- Canada thistle** (Cirsium arvense)
- Field bindweed** (Convolvulus arvensis)
- Hoary cress** (Cardaria draba)
- Leafy spurge** (Euphorbia esula)
- Russian knapweed** (Acroptilon repens)
- Perennial sorghum** including, but not limited to,
 - Johnsongrass** (Sorghum halepense)
 - Sorghum alnum** (Sorghum x alnum)

A field infested with these weeds may be approved for certification, subject to a detailed laboratory examination of a two-pound bin inspection sample taken from the cleaned seed by a representative of the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Objectionable weeds (*continued on next page*)

A field of lespedeza containing the following objectionable weeds at inspection time may be approved for certification, subject to a detailed laboratory examination of a two-pound bin inspection sample taken from the cleaned seed by a representative of the Kansas Crop Improvement Association:

- Bur ragweed** (Abrosia grayi)
- Dock and sorrel** (Rumex spp.)
- Dodder** (Cuscuta spp.)
- Dogbane** (Apocynum spp.)
- Giant foxtail** (Setaria faberii)
- Hedge bindweed** (Calystegia sepium)
- Horsenettle** (Solanum carolinense)
- Morningglory** (Ipomoea spp.)
- Muskthistle** (Carduus nutans)
- Oxeyedaisy** (Chrysanthemum luecanthemum)
- Pennycress** (Thlaspi arvense)

- Perennial sowthistle** (Sonchus arvensis)
- Plantain** (Plantago spp.)
- Quackgrass** (Elytrigia repens)
- Swamp smartweed** (Polygonum coccineum)
- Velvetleaf** (Abutilon theophrasti)
- Wild buckwheat** (Polygonum convolvulus)
- Wild mustard** (Brassica spp.)

VI. SEED SAMPLES AND SAMPLING

A sample of at least one half (1/2) pound, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed.

VII. SEED STANDARDS

A. Lespedeza seed shall meet the following requirements for certification:

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	98.00%	98.00%	98.00%
Inert matter (maximum)	2.00%	2.00%	2.00%
Weed seed (maximum)	0.50%	0.75%	1.00%
Noxious/Objectionable weed seed*	None	None	None
Other crop seed (maximum total)	0.20%	0.50%	0.75%
Alfalfa, red clover, and sweetclover (maximum total)	0.05%	0.05%	0.05%
Other varieties** (maximum)	0.25%	0.10%	0.20%
Germination and hard seed (minimum)	80.00%	80.00%	80.00%

**As listed in Section IV.B.2 and IV.B.3 of these standards.*

***Other varieties shall include seed of other species of lespedeza and seed of the same species that can be differentiated from that of the variety being analyzed but shall not include variations which are characteristic of the variety.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. If rejected because of separable objectionable weed seed as listed in Section IV.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a two-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

**KANSAS CROP IMPROVEMENT ASSOCIATION
MILLET SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

- A. The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of millet seed.
- B. The general certification standards are amplified as follows to apply specifically to millet varieties:

Section IV Designation of Classes of Seed

- 1. Certification will be limited to a maximum of three generations of increase from Breeder seed: Foundation, Registered and Certified.
- 2. The Certified class shall not be planted for the production of certified seed.

II. LAND REQUIREMENTS

A field of millet is not eligible for certification if planted on land which grew cultivated millet or had cultivated millet planted on it during the previous year unless seed of the same variety and of an equal or higher class than that to be produced was used.

III. FIELD INSPECTION

- A. Foundation and Registered Seed

A field producing Foundation or Registered millet seed shall be inspected at least two times by a representative of the Kansas Crop Improvement Association.

- 1. One inspection shall be made when the crop is in bloom.
- 2. Another inspection shall be made after the crop has begun to ripen but before harvest.

- B. Certified Seed

A field producing the Certified class of millet seed shall be inspected by a representative of the Kansas Crop Improvement Association after the crop has begun to ripen but before harvest.

- C. A millet seed crop automatically becomes ineligible for certification if harvested before the final field inspection is made.
- D. Inspections may be made without giving previous notice to the applicant.

IV. FIELD STANDARDS

- A. General Requirements

- 1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land clearly defined by distinct lines of demarcation.

- 2. Cross-pollinated

A field of millet for certification shall be isolated from any other cultivated millet variety and/or from millet of the same variety that does not meet the varietal purity and seed history requirements for production of a class of seed equal to or higher than that to be produced from the field being inspected by at least the following distances:

Foundation	1320 feet
Registered	1320 feet
Certified	660 feet

3. Self-pollinated

A field of millet for certification shall be isolated from any other cultivated millet variety and/or from millet of the same variety that does not meet the varietal purity and seed history requirements for production of a certified class of seed by at least the following distances:

Foundation	50 feet
Registered	30 feet
Certified	20 feet

B. Specific Requirements

1. The following table gives the maximum tolerance of diseases and impurities allowed in a field of millet eligible for certification:

<u>Factor</u>	<u>Maximum Permitted in Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Other varieties*	None	1 head in 10,000 (0.01%)	1 head in 5,000 (0.02%)

**Other varieties shall include plants (or heads) of cultivated millet that can be differentiated from those of the variety being inspected but shall not include variations which are characteristic of the variety.*

2. Prohibited weeds

A field of millet containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

- Canada thistle** (Cirsium arvense)
- Field bindweed** (Convolvulus arvensis)
- Hoary cress** (Cardaria draba)
- Leafy spurge** (Euphorbia esula)
- Russian knapweed** (Acroptilon repens)
- Perennial sorghum** including, but not limited to,
 - Johnsongrass** (Sorghum halepense)
 - Sorghum almum** (Sorghum x almum)

A field infested with these weeds may be passed for certification, subject to a detailed laboratory examination of a one-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Objectionable Weeds (*continued on next page*)

A field of millet containing the following objectionable weeds or crops at inspection time may be passed for certification, subject to a detailed laboratory examination of a one-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

- Bur ragweed** (Ambrosia grayi)
- Dock** (Rumex spp.)
- Giant foxtail** (Setaria faberii)
- Hedge bindweed** (Calystegia sepium)
- Horsenettle** (Solanum carolinense)
- Morningglory** (Ipomoea spp.)
- Muskthistle** (Carduus nutans)
- Perennial sowthistle** (Sonchus arvensis)
- Quackgrass** (Elytrigia repens)

Swamp smartweed (Polygonum amphibium)

Velvetleaf (Abutilon theophrasti)

Water smartweed (Polygonum amphibium var. emersum)

Wild buckwheat (Polygonum convolvulus)

V. SEED SAMPLES AND SAMPLING

A sample of at least one (1) pound, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed.

VI. SEED STANDARDS

- A. The cleaned seed inspection sample or subsequently drawn one-pound samples shall meet the following requirements for certification:

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	98.00%	98.00%	98.00%
Inert matter (maximum)	2.00%	2.00%	2.00%
Weed seed (maximum)	0.02%	0.05%	0.10%
Prohibited or objectionable weed seed*	None	None	None
Other kinds (maximum)	None	None	0.02%
Other varieties** (maximum total)	None	0.01%	0.02%
Germination (minimum)	80.00%	80.00%	80.00%

**As listed in Section IV.B.2 and IV.B.3 of these standards.*

***Other varieties shall include seeds of cultivated millet that can be differentiated from those of the variety being analyzed but shall not include variations which are characteristic of the variety.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. If deferred because of separable objectionable weed seed listed in Section IV.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a one-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

**KANSAS CROP IMPROVEMENT ASSOCIATION
OAT SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of oat seed.

II. LAND REQUIREMENTS

A field of oats is not eligible for certification if planted on land which grew oats or had oats planted on it during the previous twelve months unless certified seed of the same variety was used.

III. FIELD INSPECTION

- A. A field of oats for certification shall be inspected by a representative of the Kansas Crop Improvement Association after the crop has begun to ripen but before harvest, the crop automatically becoming ineligible for certification if harvested before the field inspection is made.
- B. Inspection may be made without giving previous notice to the applicant.

IV. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land clearly defined by distinct lines of demarcation.

2. Isolation

A field of oats for certification shall be isolated from any other oats variety and/or from oats of the same variety that does not meet the varietal purity and seed history requirements for certification by at least the following distances:

Foundation	50 feet
Registered	30 feet
Certified	20 feet

A field of oats for certification shall be separated from wheat, rye, or barley by a permanent mark such as a fence, a road, a strip of ground, a ditch, or some other distinct line of demarcation at least six feet wide.

B. Specific Requirements

- 1. The following table gives the maximum tolerance of diseases and impurities allowed in a field of oats eligible for certification:

Factor	Maximum Permitted in Each Class		
	Foundation	Registered	Certified
Other varieties*	1 head in 15,000 (0.007%)	1 head in 10,000 (0.01%)	1 head in 5,000 (0.02%)
Wheat/barley (total)	1 head in 10,000 (0.01%)	1 head in 10,000 (0.01%)	2 heads in 10,000 (0.02%)
Smut**	1 plant/acre	3 plants/acre	5 plants/acre
Other diseases***			

**Other varieties shall include plants (or heads) that can be differentiated from those of the variety being inspected but shall not include variations which are characteristic of the variety.*

***If this disease is present in the production field but does not exceed the maximum tolerance, the seed must be treated to control seedborne disease organisms before it is finally approved for distribution as certified seed.*

****If chemically controlled seedborne diseases are noted upon field inspection or laboratory examination, proper seed treatment is required.*

2. Prohibited weeds

A field of oats containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

Canada thistle (Cirsium arvense)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Leafy spurge (Euphorbia esula)

Russian knapweed (Acroptilon repens)

Perennial sorghum including, but not limited to,

Johnsongrass (Sorghum halepense)

Sorghum almum (Sorghum x almum)

A field infested with these weeds may be passed for certification subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Prohibited crops

A field of oat containing uncontrolled areas of the following prohibited crops shall not be eligible for certification regardless of the state of maturity of the crops at the time of inspection.

Rye (Secale cereale subsp. cereale)

Triticale (xtriticosecale) –including hybrid of wheat x triticale

A field infested with these crops may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the rye and/or triticale is plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

4. Objectionable weeds and crops

A field of oats containing the following objectionable weeds or crops at inspection time may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

Bur ragweed (Abrosia grayi)

Cheat/japanese brome/downy brome (all Bromus spp. except B.inermis)

Dock (Rumex spp.)

Jointed goatgrass (Aegilops cylindrica) –including hybrid of wheat x jointed goatgrass

Hedge bindweed (Calystegia sepium)

Morningglory (Ipomoea spp.)

Pennycress (Thlaspi arvense)

Quackgrass (Elytrigia repens)

Wild buckwheat (Polygonum convolvulus)

Wild onion or wild garlic (Allium spp.)

Wild oats (Avena fatua L.)

V. SEED SAMPLES

A sample of at least ten (10) pounds, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to represent the entire lot of seed.

VI. SEED STANDARDS

- A. The cleaned seed inspection sample or subsequently drawn ten-pound samples shall meet the following requirements for certification:

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	98.00%	98.00%	98.00%
Inert matter (maximum)	2.00%	2.00%	2.00%
Weed seed (maximum)	0.10%	0.20%	0.20%
but not to exceed	(5/lb.)	(10/lb.)	(15/lb.)
Prohibited weed seed*	None	None	None
Objectionable weed and crop seed**			
Morningglory	1/10 lbs.	1/10 lbs.	1/10 lbs.
Wild buckwheat	1/10 lbs.	1/10 lbs.	1/10 lbs.
Cheat	1/10 lbs.	1/10 lbs.	1/10 lbs.
Goatgrass seed unit	1/10 lbs.	1/10 lbs.	1/10 lbs.
Pennycress	1/10 lbs.	2/10 lbs.	3/10 lbs.
Other	None	None	None
Other crop seed			
excluding wheat and barley	1/lb.	1/lb.	1/lb.
wheat and barley (maximum total)	1/lb.	1/lb.	2/lb.
Other varieties** (maximum total)	1 in 2 lbs.	1/lb.	2/lb.
Germination (minimum)	85.00%	85.00%	85.00%

**As listed in Section IV.B.2 and IV.B.3 of these standards.*

***Other varieties shall include seeds that can be differentiated from those of the variety being analyzed but shall not include variations which are characteristic of the variety.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. If deferred because of separable objectionable weed seed as listed in Section IV.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

**KANSAS CROP IMPROVEMENT ASSOCIATION
RAPESEED, CRAMBE, OR MUSTARD SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of rapeseed (including canola), crambe, or mustard.

II. CLASSES OF CERTIFIED SEED

Certification shall be on the limited generation system. The Foundation class will produce the Registered class; the Registered class will produce the Certified class. The Certified class is not eligible for recertification.

III. LAND REQUIREMENTS

Land must not have grown or been seeded to *Brassica (Crucifera)* crops during the previous three years. Exception: the same variety may be planted in a field after a two year interval from the previous harvest.

IV. FIELD INSPECTION

Field inspection will be made when the crop is in the early flowering stage. It is the grower’s responsibility to ensure that crops have been inspected prior to harvest. Crops cut, swathed, or harvested prior to being field inspected are not eligible for certification.

V. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification. A field is an area of land clearly defined by distinct lines of demarcation.

2. Isolation

A field producing any class of certified seed must have the minimum isolation distance from fields of any other variety of the same kind or from a non-certified crop of the same variety as follows:

(a) Producing Foundation and Registered Seed:

<u>Crambe</u>	<u>Mustard</u>	<u>Rapeseed (self-pollinated)</u>	<u>Rapeseed (cross-pollinated)</u>
660 feet	1320 feet	660 feet	1320 feet

(b) Producing Certified Seed:

<u>Crambe</u>	<u>Mustard</u>	<u>Rapeseed (self-pollinated)</u>	<u>Rapeseed (cross-pollinated)</u>
660 feet	660 feet	330 feet	660 feet

(c) Certified fields of same variety: 10 feet

B. Specific Requirements

1. The following table gives the maximum tolerance allowed in a field for certification:

<u>Factor</u>	<u>Maximum Permitted in Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Other varieties	1:2000	1:1000	1:500

2. Prohibited weeds

A field containing uncontrolled areas of the following weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

- Bur ragweed** (*Ambrosia grayi*)
- Canada thistle** (*Cirsium arvense*)
- Field bindweed** (*Convolvulus arvensis*)
- Hoary cress** (*Cardaria draba*)
- Leafy spurge** (*Euphorbia esula*)
- Musk thistle** (*Carduus nutans*)
- Quackgrass** (*Elytrigia repens*)
- Russian knapweed** (*Acroptilon repens*)
- Perennial sorghum** including, but not limited to,
 - Johnsongrass** (*Sorghum halepense*)
 - Sorghum alnum** (*Sorghum x alnum*)

A field infested with these weeds may be passed for certification subject to a detailed laboratory examination of a one-pound cleaned seed inspection sample taken from the cleaned seed and submitted to Kansas Crop Improvement Association, provided the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Objectionable weeds/crops

A field containing the following objectionable weeds and crops at inspection time may be passed for certification, subject to a detailed laboratory examination of a one-pound cleaned seed inspection sample taken from the cleaned seed and submitted to Kansas Crop Improvement Association:

- Brassicaceae family** (mustards, wild radish)
- Bedstraws** (*Galium* spp.)
- Docks** (*Rumex* spp.)
- Hairy vetch** (*Vicia villosa* subsp. *Villosa*)
- Hedge bindweed** (*Calystegia sepium*)
- Jointed goatgrass** (*Aegilops cylindrical*)
- Morningglory** (*Ipomea* spp.)
- Wild buckwheat** (*Polygonum convolvulus*)
- Wild onion or wild garlic** (*Allium* spp)

VI. SEED SAMPLES

A sample of at least one (1) pound, representing each lot of seed as it is to be offered for sale, shall be submitted to Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to represent the entire lot of seed.

VII. SEED STANDARDS

The cleaned seed inspection sample or subsequently drawn one-pound samples shall meet the following requirements for certification:

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	99.00%	99.00%	99.00%
Inert matter (maximum)	1.00%	1.00%	1.00%
Weed seed (<i>Brassica</i> spp. and <i>Raphanus raphanistrum</i>)	0.01%	0.01%	0.01%
Prohibited weed and crop seed	None	None	None
Objectionable weed and crop seed			
Wild buckwheat	1/lb.	2/lb.	5/lb.
Other	None	None	None
Other weeds	0.01%	0.02%	0.03%
Total other crop seeds (maximum)	0.05%	0.10%	0.25%
Other varieties (maximum)	0.05%	0.10%	0.25%
Other kinds* (maximum)	0.01%	0.01%	0.01%
Germination** (minimum)	85.00%	85.00%	85.00%

**Shall not exceed one (1) per pound for Foundation; two (2) per pound for Registered; and five (5) per pound for Certified.*

***75% for the Registered and Certified classes of Crambe.*

**KANSAS CROP IMPROVEMENT ASSOCIATION
RYE SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of rye seed.

II. LAND REQUIREMENTS

A field of rye is not eligible for certification if planted on land that grew rye or had rye planted on it the previous twelve months unless certified seed of the same variety was used.

III. FIELD INSPECTION

- A. A field of rye for certification shall be inspected by a representative of the Kansas Crop Improvement Association after the crop has begun to ripen but before harvest, the crop automatically becoming ineligible for certification if harvested before the field inspection is made.
- B. Inspection may be made without giving previous notice to the applicant.

IV. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land clearly defined by distinct lines of demarcation.

2. Isolation

- (a) A field of rye for certification shall be isolated by at least 40 rods (660 feet) from any other rye variety and/or from rye of the same variety that does not meet the varietal purity and seed history requirements for certification.
- (b) A field of rye for certification shall be separated from wheat, oats, triticale, and barley by a permanent mark such as a fence, a road, a strip of ground, a ditch, or some other distinct line of demarcation at least six feet wide.

B. Specific Requirements

- 1. The following table gives the maximum tolerance of disease and impurities allowed in a field of rye for certification:

<u>Factor</u>	<u>Maximum Permitted in Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Other varieties*	1 head in 15,000 (0.007%)	1 head in 10,000 (0.01%)	1 head in 5,000 (0.02%)
Wheat, oats, barley, and triticale (totals)	1 head in 10,000 (0.01%)	1 head in 10,000 (0.01%)	1 head in 10,000 (0.02%)
Ergot	1 head in 10,000 (0.01%)	1 head in 10,000 (0.01%)	1 head in 10,000 (0.01%)

**Other varieties shall include plants (or heads) that can be differentiated from those of the variety being inspected but shall not include variations which are characteristic of the variety.*

2. Prohibited weeds

A field of rye containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

Canada thistle (Cirsium arvense)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Leafy spurge (Euphorbia esula)

Russian knapweed (Centaurea repens)

Perennial sorghum including, but not limited to

Johnsongrass (Sorghum halepense)

Sorghum almum (Sorghum x almum)

A field infested with these weeds may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Objectionable Weeds

A field of rye containing the following objectionable weeds at inspection time may be approved for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association.

Bur ragweed (Franseria tomentosa)

Cheat/japanese brome/downy brome (all Bromus spp. except B. inermis)

Dock (Rumex spp.)

Goatgrass (Aegilops cylindrica)

Hedge bindweed (Convolvulus sepium, including C. interior)

Morningglory (Ipomoea spp.)

Pennycress (Thlaspi arvense)

Quackgrass (Agropyron redens)

Wild buckwheat (Polygonoum convolvulus)

Wild mustard (Brassica spp.)

Wild onion or wild garlic (Albium spp.)

Wild oats (Avena fatua L.)

V. SEED SAMPLES AND SAMPLING

A sample of at least ten (10) pounds, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed.

VI. SEED STANDARDS

A. Rye seed shall meet the following requirements for certification:

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure seed (minimum)	98.00%	98.00%	98.00%
Inert matter (maximum)	2.00%	2.00%	2.00%
Weed seed (maximum)	0.05%	0.05%	0.05%
but not to exceed	5/lb.	10/lb.	15/lb.
Noxious weed seed*	None	None	None
Objectionable weed seed* (maximum)			
Morningglory or wild buckwheat	1/10 lbs.	1/10 lbs.	1/10 lbs.
Bromus spp. (maximum total)	None	1/10 lbs.	2/10 lbs.
Other	None	None	None
Other crop seed			
Wheat, oats, barley, triticale (maximum)	1/lb.	1/lb.	1/lb.
Other varieties** (maximum)	1 in 2 lbs.	1/lb.	2/lb.
Ergot (maximum)	1/lb.	1/lb.	1/lb.
Germination (minimum)	80.00%	80.00%	80.00%

**As listed in Section IV.B.2 and IV.B.3 of these standards.*

***Other varieties shall include seeds that can be differentiated from those of the variety being analyzed but shall not include variations which are characteristic of the variety.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. If deferred because of separable objectionable weed seed listed in Section IV.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

KANSAS CROP IMPROVEMENT ASSOCIATION
COMMERCIAL SORGHUM HYBRID SEED CERTIFICATION STANDARDS

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

- A. The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for seed certification of commercial sorghum hybrid seed.
- B. The general certification standards are amplified as follows to apply specifically to commercial sorghum hybrid seed:
 - 1. Requirements for Certification
 - (a) A commercial hybrid is one to be planted for any use except seed production.
 - (b) The pedigree of a closed-pedigree hybrid will be filed with the Secretary of the Kansas Crop Improvement Association in the manner prescribed by the Association. The originator of a closed-pedigree hybrid is to furnish the Association with a complete and accurate description of the plant and grain characteristics of the hybrid at the time application is made for certification.
 - (c) The name under which any hybrid shall be certified shall be the same as the designation given by the originator.
 - 2. Classes of Certified Seed
 - (a) To be Certified, a commercial sorghum hybrid must be produced from certified Foundation seed stock.
 - (b) Only the class "Certified" is recognized.

II. LAND REQUIREMENTS

Certified commercial sorghum hybrid seed may be produced on land that grew sorghum or had sorghum planted on it the previous year only if certified seed of the pollinator (male) parent was used or if certified seed of the same commercial hybrid was produced.

III. FIELD INSPECTION

- A. A field producing certified commercial sorghum hybrid seed shall be given at least three inspections. All additional field inspections shall be at the discretion of the Kansas Crop Improvement Association.
 - 1. Two inspections shall be made during bloom, one in early bloom and one in full bloom.
 - 2. Another inspection shall be made before harvest but after the seed begins to assume mature color, the crop automatically becoming ineligible for certification if harvested before this final inspection is made.
- B. Inspections may be made without giving previous notice to the applicant.

IV. FIELD STANDARDS

- A. General Requirements
 - 1. Unit of Certification
 - (a) The field shall be considered the unit of certification and cannot be divided after final inspection for the purpose of meeting field inspection requirements. A field is an area of land clearly defined by distinct lines of demarcation and used for the production of seed of one commercial sorghum hybrid.

- (b) The entire field of any one commercial sorghum hybrid grown by and/or belonging to one applicant and used for seed production must be eligible for certification and must be inspected.

2. Isolation

For the production of certified commercial sorghum hybrid seed, the seed (female) parent must be located not less than:

- (a) 40 rods (660 feet) from any other variety of the same genetic height as the pollinator (male) parent or from any sorghum with a different chromosome number.
- (b) 60 rods (990 feet) from any variety of different genetic height. (This includes any off-type plants in this classification occurring anywhere within the specified distance.)
- (c) 80 rods (1320 feet) from grass sorghum or broomcorn with the same chromosome number. (This includes any off-type plants in this classification occurring anywhere within the specified distance.)

3. Modification of Isolation Requirements

- (a) The modification of isolation distances by the planting of additional pollinator** rows shall be allowed only in cases in which the hybrid produced by the contaminating pollen would not differ greatly in color, maturity, height, type, or any other important characteristics from the hybrid being produced. Modification from the standard isolation distances of 660 feet down to a minimum of 330 feet is permitted in such cases when two additional border rows of the pollinator are planted for each 66 feet of reduction in isolation distance. The requirements for additional pollinator rows apply to all sides of a seed field exposed to the contaminating pollen whether located directly opposite or diagonally from the contaminating field.

*** To be considered a pollinator row, the pollinator line must be producing pollen during the time five percent (5%) or more of the female flowers are receptive.*

- (b) Differential blooming dates are permitted for modifying isolation distances, provided that the sum of the percentages of plants in bloom in the seed rows and in the contaminating field shall not exceed five percent (5%) when more than one percent (1%) of the plants in either field are in bloom.

B. Specific Requirements

- 1. Both the seed (female) parent and the pollinator (male) parent shall be required to meet the following standards, as determined by field examination:

<u>Factor</u>	<u>Maximum Permitted at Any Field Inspection</u>
Other varieties, definite*	1 head in 20,000 (0.005%)
Other varieties, doubtful**	1 head in 1,000 (0.1%)

**Other varieties shall include off-type plants (or heads) that can be differentiated from those of the variety that is being inspected but shall not include variations which are characteristic of the variety.*

***To be designated by the certifying agency.*

- 2. A commercial hybrid seed production field shall be disqualified for certification if more than 0.05% (1 head in 2,000) of the seed (female) parent plants are shedding pollen at any one inspection.
- 3. Prohibited Weeds (*continued on next page*)

A field containing uncontrolled areas of the following noxious weeds at the time of the final inspection shall not be eligible for certification regardless of the state of maturity of the weeds at the time of inspection:

Bur ragweed (Ambrosia grayi)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Russian knapweed (Centaurea repens)

Perennial sorghum including, but not limited to,

Johnsongrass (Sorghum halepense)

Perennial sweet sorghum

Sorghum almum (Sorghum x almum)

A field infested with these weeds may be approved for certification, subject to a detailed laboratory examination of a ten-pound sample taken from the cleaned seed by a representative of the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

4. Objectionable weeds

A field containing the following objectionable weeds at the time of the final inspection may be approved for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample submitted to the Kansas Crop Improvement Association:

Hedge or hairy bindweed (Calystegia spp.)

Morningglory (Ipomoea spp.)

Velvetleaf (Abutilon theophrasti)

V. SEED STANDARDS

- A. A representative sample of each lot of commercial hybrid sorghum seed shall be entered, at the expense of the grower, in a grow-out to be arranged for or approved by the Kansas Crop Improvement Association.
- B. A sample of at least ten (10) pounds representing each lot of seed as it is prepared for sale shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample shall meet the following requirements for certification:

<u>Factor</u>	<u>Standard</u>
Pure seed (minimum)	98.00%
Inert matter (maximum)	2.00%
Germination (minimum)	80.00%
Weed seed (maximum)	0.10%
Noxious/objectional weed seed*	None
Other varieties (maximum)**	1 seed/lb.
Other crop seed (maximum)	10 seeds/ lb.

**As listed in Section IV.B.3. and IV.B.4. of these standards.*

***Other varieties shall include seeds that can be differentiated from those of the variety being analyzed but shall not include variations which are characteristic of the variety.*

- C. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- D. If deferred because of separable objectionable weed seed as noted in Section IV.B.4, or other crop, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.
- E. To be certified, all commercial sorghum hybrid seed shall be treated to control seed-borne diseases before bagging.

KANSAS CROP IMPROVEMENT ASSOCIATION
NON-HYBRID SORGHUM SEED CERTIFICATION STANDARDS

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

- A. The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for seed certification of standard sorghum varieties.
- B. Eligibility requirements for certification of crop varieties of the general certification standards are amplified as follows to apply specifically to standard sorghum variety seed:
 - 1. Any variety approved for certification by a member agency of the Association of Official Seed Certifying Agencies shall be eligible for certification by the Kansas Crop Improvement Association.
 - 2. A variety not previously certified may be accepted for certification by action of the Board of Directors.

II. LAND REQUIREMENTS

Sorghum for certification shall not be planted on land which grew sorghums, including sudangrass, or had sorghums planted on it the previous year unless certified seed of the same variety was used.

III. FIELD INSPECTION

- A. A field of grain sorghum for certification shall be inspected by a representative of the Kansas Crop Improvement Association at least twice after the plants have commenced to bloom and before harvest.
- B. A field of forage sorghum for certification shall be inspected by a representative of the Kansas Crop Improvement Association after the crop has begun to ripen but before harvest.
- C. Inspections may be made without giving previous notice to the grower.

IV. FIELD STANDARDS

A. General Requirements

1. Unit of Certification

The field shall be considered the unit of certification. A field cannot be divided after inspection for the purpose of certification. A field is an area of land bounded by a fence, a road, another crop from which sorghum does not require isolation, or a strip of ground at least six feet wide.

2. Isolation

A field of sorghum for certification shall be isolated as follows from any other variety of sorghum including sudangrass and johnsongrass or fields of the same variety that do not meet the varietal purity and seed history requirements for certification:

Foundation	80 rods (1320 feet)
Registered	60 rods (990 feet)
Certified	40 rods (660 feet)

B. Specific Requirements.

- 1. The following table indicates the maximum tolerance of diseases and impurities allowed in fields or sorghum eligible for certification:

<u>Factor</u>	<u>Maximum Tolerance</u>
Other Varieties	
Definite	1 head per 2 acre
Doubtful	10 heads per acre
Other Crops	Trace
Kernel Smut	1 head in 2,500 heads
Common Weeds	Trace

2. Prohibited Weeds

Fields containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the state of maturity of the weeds at the time of inspection:

Bur ragweed (Ambrosia grayisa)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Russian knapweed (Acroptilon repens)

Perennial sorghum including, but not limited to,

Johnsongrass (Sorghum halepense)

Perennial sweet sorghum

Sorghum alnum (Sorghum x alnum)

Fields infested with these weeds may be approved if the weeds are plowed under, pulled out, or killed by chemical treatment before the time of inspection.

3. Objectionable Weeds

A field of sorghum found to contain the following objectionable weeds at inspection time may be approved for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

Hedge bindweed (Calystegia sepium)

Morningglory (Ipomoea spp.)

Velvetleaf (Abutilon theophrasti)

V. SAMPLES AND SAMPLING

A sample of at least ten (10) pounds representing each lot of seed as it is prepared for sale shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. This sample shall truly represent the lot of seed from which it is taken.

VI. SEED STANDARDS (*continued on next page*)

- A. The cleaned seed inspection sample or subsequently drawn ten-pound sample shall meet the following requirements for certification:

<u>Factor</u>	<u>Standard</u>
Pure seed (minimum)	98.00%
Inert matter (maximum)	2.00%
Germination (minimum)	80.00%
Other varieties (maximum)**	1 seed / 10lbs.
Other crops (maximum)	10 /lb.
Common weeds (maximum)	0.01%
Prohibited weeds* (maximum)	None
Objectionable weeds* (maximum)	None.

**As listed in Section IV.B.3. and IV.B.4. of these standards.*

***Other varieties shall include seeds that can be differentiated from those of the variety being analyzed but shall not include variations which are characteristic of the variety.*

- B. If seed-borne disease is present in the production field but does not exceed the maximum tolerance, the seed must be treated to control seed-borne disease organisms before it is finally approved for distribution as certified seed.
- C. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- D. If deferred because of separable objectionable weed seed as noted in section IV.B.3, or other crop, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

KANSAS CROP IMPROVEMENT ASSOCIATION
SOYBEAN SEED CERTIFICATION STANDARDS

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of soybean seed.

II. CLASSES OF SEED

Soybean varieties shall be on the limited generation system. The Foundation class will produce the Registered class; the Registered class will produce the Certified class. The Certified class is not eligible for recertification with the following exception: unlimited recertification of the Certified class may be permitted for varieties released prior to 1970. Some varieties may not have the option of a Registered class.

III. LAND REQUIREMENTS

Soybeans for certification shall not be planted on land on which soybeans were grown or planted during the previous twelve months unless certified seed of the same variety was planted.

IV. FIELD INSPECTION

A. Foundation Seed

Fields producing the Foundation class of seed shall be inspected at least twice.

1. One field inspection shall be made when the crop is in bloom.
2. Another field inspection shall be made before harvest, preferably after the leaves have dropped.

B. Registered and Certified Seed

Fields producing the Registered and Certified classes of seed shall be inspected after the crop begins to ripen but before harvest.

- C. A crop automatically becomes ineligible for certification if harvested before the final field inspection is made.
- D. Inspections may be made without giving prior notice to the grower.

V. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification. A field cannot be divided after the final inspection for the purpose of certification. A field is an area of land bounded by (a) a fence; (b) a road; (c) another crop from which soybeans do not require isolation; or (d) a strip of cultivated ground, a ditch, or some other distinct line of demarcation.

2. Isolation

A field of soybeans for certification shall be isolated by at least 12 feet from any other variety of soybeans or fields of the same variety that do not meet the varietal purity and seed history requirements for certification.

B. Specific Requirements

1. Other varieties

The maximum tolerance of other varieties of soybeans in fields inspected for certification shall be:

<u>Foundation (at final inspection)</u>	<u>Registered</u>	<u>Certified</u>
1 plant in 5000 (0.02%)	1 plant in 2000 (0.05%)	1 plant in 1000 (0.10%)

Other varieties shall be considered to include off-type plants that can be differentiated from the variety that is being inspected.

2. Prohibited weeds

Fields containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the state of maturity of the weeds at the time of inspection.

Bur ragweed (Ambrosia grayi)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Leafy spurge (Euphorbia esula)

Perennial sorghum including, but not limited to,

Johnsongrass (Sorghum halepense)

Perennial sweet sorgrass

Sorghum alnum (Sorghum x alnum)

Russian knapweed (Acroptilon repens)

Fields infested with these weeds may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Objectionable weeds and other crops

A field found to contain the following objectionable weeds and/or other crops at the time of final inspection may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

Bullnettle or horsenettle (Solanum carolinense)

Cocklebur (Xanthium spp.)

Corn (Zea mays) bearing grain

Giant ragweed (Ambrosia trifida)

Hedge or hairy bindweed (Calystegia sepium)

Morningglory (Ipomoea spp.)

Shattercane (Sorghum bicolor)

Sunflower (Helianthus spp.)

Velvetleaf (Abutilon theophrasti)

Black nightshade (Solanum nigrum)

VI. SEED SAMPLES AND SAMPLING

A sample of at least ten (10) pounds, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to truly represent the entire lot of seed.

VII. SEED STANDARDS

- A. The cleaned seed inspection sample or subsequently drawn ten-pound sample shall meet the following requirements for certification:

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Germination, including hard seed (minimum)	80.00%	80.00%	80.00%
Mechanical purity (minimum)	98.00%	98.00%	98.00%
Inert matter (maximum)	2.00%	2.00%	2.00%
Weed seed (maximum)	1/lb.	1/lb.	3.lb.
Prohibited weed seed*	None	None	None
Objectionable weed seed (units)*	None	None	None
Other crop seed			
excluding corn and grain sorghum	None	1 in 10 lbs.	1 in 10 lbs.
Corn, grain sorghum (maximum)	None	None	1 in 10 lbs.
Other varieties** (maximum)	0.02%	0.05%	0.10%

**As listed in Section V.B.2. and V.B.3. of these standards.*

***Off-colored beans due to environmental factors shall be considered in other varieties.*

- A. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- B. If deferred because of separable objectionable weed seed listed in Section V.B.3, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

KANSAS CROP IMPROVEMENT ASSOCIATION
TRITICALE SEED CERTIFICATION STANDARDS

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of triticale seed.

II. CLASSES OF CERTIFIED SEED

Triticale varieties shall be on the limited generation system. The Foundation class will produce the Registered class; the Registered class will produce the Certified class. The Certified class is not eligible for recertification.

III. LAND REQUIREMENTS

A field of triticale is not eligible for certification if planted on land which grew triticale or had triticale planted on it during the previous twelve months unless certified seed of the same variety was used.

IV. FIELD INSPECTION

- A. A field of triticale for certification shall be inspected by a representative of the Kansas Crop Improvement Association after the crop has begun to ripen but before harvest, the crop automatically becoming ineligible for certification if harvested before the field inspection is made.
- B. Inspection may be made without giving previous notice to the applicant.

V. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land clearly defined by distinct lines of demarcation.

2. Isolation

A field of triticale for certification shall be isolated from any other triticale variety and/or from triticale of the same variety that does not meet the varietal purity and seed history requirements for certification by at least the following distances:

Foundation	50 feet
Registered	30 feet
Certified	20 feet

A field of triticale for certification shall be separated from wheat, rye or barley by a permanent mark such as a fence, a road, a strip of ground, a ditch, or some other distinct line of demarcation at least six feet wide.

B. Specific Requirements

- 1. The following table gives the maximum tolerance of diseases and impurities allowed in a field of triticale eligible for certification:

Factor	Maximum Permitted in Each Class		
	Foundation	Registered	Certified
Other varieties*	1 head in 10,000 (0.01%)	1 head in 5,000 (0.02%)	1 head in 2,500 (0.04%)
Wheat, oats, barley, and rye (total)	1 head in 10,000 (0.01%)	1 head in 10,000 (0.01%)	2 heads in 10,000 (0.02%)
Ergot	1 head in 10,000	1 head in 10,000	1 head in 10,000
Bunt**	1 plant/acre	2 plants/acre	3 plants/acre
Loose smut	3 heads in 1,000 (0.3%)	5 heads in 1,000 (0.5%)	10 heads in 1,000 (1%)

*Other varieties shall include plants (or heads) that can be differentiated from those of the variety being inspected but shall not include variations which are characteristic of the variety.

**If this disease is present in the production field but does not exceed the maximum tolerance, the seed must be treated to control seed-borne disease organisms before it is finally approved for distribution as certified seed.

2. Prohibited weeds

A field of triticale containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection:

- Canada thistle** (Cirsium arvense)
- Field bindweed** (Convolvulus arvensis)
- Hoary cress** (Cardaria draba)
- Leafy spurge** (Euphorbia esula)
- Musk thistle** (Carduus nutans)
- Russian knapweed** (Acroptilon repens)
- Perennial sorghum** including, but not limited to,
 - Johnsongrass** (Sorghum halepense)
 - Sorghum alnum** (Sorghum x alnum)

A field infested with these weeds may be passed for certification subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Objectionable weeds and crops (*continued on next page*)

A field of triticale containing the following objectionable weeds and/or other crops at inspection time may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association:

- Bur ragweed** (Ambrosia grayi)
- Cheat/japanese brome/downy brome** (all Bromus spp. except B.inermis)
- Dock** (Rumex spp.)
- Jointed goatgrass** (Aegilops cylindrica)
- Hedge bindweed** (Calystegia sepium)
- Morningglory** (Ipomoea spp.)
- Pennycress** (Thlaspi arvense)
- Quackgrass** (Elytrigia repens)
- Rye** (Secale cereale subsp. cereale)
- Wild buckwheat** (Polygonum convolvulus)

Wild mustard (Brassica spp.)

Wild onion or wild garlic (Allium spp.)

Wild oats (Avena fatua L.)

VI. SEED SAMPLES

A sample of at least ten (10) pounds, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to represent the entire lot of seed.

VII. SEED STANDARDS

A. The cleaned seed inspection sample or subsequently drawn ten-pound samples shall meet the following requirements for certification.

Factor	Standards for Each Class		
	Foundation	Registered	Certified
Pure Seed (minimum)	98.00%	98.00%	98.00%
Inert matter (maximum)	2.00%	2.00%	2.00%
Weed Seed (maximum)	0.50%	0.50%	0.50%
Prohibited Weed Seed*	none	none	none
Morningglory (max)	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Wild Buckwheat	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Bromus spp. (max.)	none	1 in 10 lbs.	2 in 10 lbs.
Other	none	none	none
Other crop seed (max. total)	0.01%	0.02%	0.05%
Wheat, oats, and barley	1/lb.	2/lb.	5/lb.
Rye	none	none	none
Other varieties** (max)	1 in 2 lbs.	1/lb.	2/lb.
Germination (minimum)	85.00%	85.00%	85.00%

**As listed in Section V.B.2. and V.B.3. of these standards.*

***Other varieties shall include seeds that can be differentiated from those of the variety being analyzed but shall not include variations which are characteristic of the variety.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. If deferred because of separable objectionable weed seed as listed in Section V.B.3, wheat, barley, oats, or ergot, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.

KANSAS CROP IMPROVEMENT ASSOCIATION

WARM SEASON VEGETATIVELY PROPAGATED OR SEEDED TURFGRASS CERTIFICATION STANDARDS

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

- A. The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of vegetatively propagated or seeded turfgrass sod.
- B. The terms “sod,” “sprigs,” and “plugs” are here defined as vegetatively propagated planting materials taken from turfgrasses. For purposes of these standards, “sod” will be used to designate these various materials.
- C. The general certification standards are amplified as follows to apply specifically to vegetatively propagated or seeded sod:
 - 1. Foundation sod shall be the increase of Breeder’s sprigs or seed.
 - 2. Registered sod shall be the increase of Foundation sprigs or seed.
 - 3. Certified sod shall be the increase of Certified seed, Registered sprigs or seed, or Foundation sprigs or seed.
 - 4. The classes of certified planting stock will be identified as follows:
Foundation class with a white tag or label, Registered class with a purple tag or label, and Certified class with a blue tag or label.
 - 5. A map showing the location variety must accompany the application for field inspection and certification.
 - 6. Life of stand:
The life of the stand for vegetatively propagated sod will continue as long as the varietal and mechanical purity for the class being produced is maintained unless a shortened life is stipulated by the breeder at the time of varietal release. The stand life of sod produced from seeded turf types shall be limited to one lifting of the sod.

II. LAND REQUIREMENTS

- A. To be eligible for the production of Foundation, Registered or Certified sod, a field must be inspected prior to planting at a time when other crops, other varieties, and weeds can be determined. The soil must not have been tilled or otherwise disturbed so as to obscure plant growth prior to the initial inspection. An additional inspection will be made approximately four to six weeks after planting.
- B. Land for Foundation and Registered class sod production must have been inspected two times, at a four-to six-week interval prior to planting and meet the requirements of Section II.A.
- C. Land fumigated with approved material must lay idle for a period of not less than three weeks after fumigation and be inspected for compliance with Section II.A. Conditions must be adequate to allow any live plants not eradicated by fumigation to emerge.
- D. A field producing certified sod from seed may, in the current and/or consecutive years, be replanted to the same variety after the previous sod crop has been eradicated.
- E. Maximum Size of Field:

Foundation	10 acres
Registered	10 acres
Certified	No Limit

III. FIELD INSPECTION

- A. Prior to inspection a field must be rogued and/or sprayed during the growing season to remove (1) other varieties, (2) other perennial grasses, (3) objectionable and prohibited weeds, and (4) common weeds in excess of agency standards.
- B. In addition to the pre-plant inspection, fields will receive a minimum of two inspections each year sod will be harvested. The first inspection will be prior to the first harvesting of the sod each year.
- C. One annual inspection for maintenance of purity will be required when no certified sod is to be harvested.
- D. If requested to do so, the grower will leave a representative area of the field unharvested or unmown until seed heads appear.

IV. FIELD STANDARDS

A. General Requirements

1. Unit of certification

A field or portion of a field may be certified.

2. Isolation

A field must be isolated from ineligible areas of the same variety and/or areas of another variety of the same species, and/or any other perennial grass by a barrier and/or strip at least six feet wide that will prevent encroachment or mechanical mixing during harvest.

3. Seed head removal

Fields must be mowed, sprayed, or otherwise treated prior to flowering to prevent production of seed heads. This requirement may be waived for varieties for which viable seed production is genetically limited.

B. Specific Requirements

1. The following table gives the maximum permitted plants in each class:

<u>Factor</u>	<u>Maximum Permitted in Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Other crops*	1 plant/acre	2 plants/acre	5 plants/acre
Prohibited/Noxious Weeds**	None	None	None
Other Living Plants (max/acre)	100	200	400

*Other crops shall consist of all other kinds and varieties of perennial grasses.

**Noxious weeds will be those plants recognized as noxious by the Kansas Noxious Weed Act.

2. The maximum tolerance for seed heads per square foot shall be:

<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
1	2	3

except for varieties where viable seed production is deemed nonsignificant i.e. interspecific hybrids.

3. Prohibited weeds (*continued on next page*)

Sod containing any of the following prohibited weeds shall not be eligible for certification unless controlled or removed prior to inspection:

Buckhorn plantain (Plantago lanceolata)

Dock (Rumex spp.)

Dodder (Cuscuta app.)

Field bindweed (Convolvulus arvensis)

Hedge or hairy bindweed (Convolvulus sepium, including that formerly called C. interior)

Hoary cress (Cardaria draba)

Horsenettle or bull nettle (Solanum carolinense)

Leafy spurge (Euphorbia esula)

Perennial sedges (Cyperus rotundus, C. esculentus)

Perennial sorghum including, but not limited to

Johnsongrass (Sorghum halepense)

Sorghum almum (Sorghum x almum)

Perennial sowthistle (Sonchus arvensis)

Russian knapweed (Centaurea repens)

Sericea lespedeza (Lespedeza cuneata)

Wild mustards (Brassica spp.)

Wild onion and wild garlic (Allium spp.)

V. LABELING

- A. An official label or tag shall accompany each shipment of certified sprigs.
- B. A complete record of the amount of certified turf sales will be maintained and made available to KCIA and will include: class of turf sold; kind and variety; field number; date of harvest; amount of turf shipped (square feet, cubic feet, bushels, etc.).

**KANSAS CROP IMPROVEMENT ASSOCIATION
WHEAT SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of wheat seed.

II. LAND REQUIREMENTS

A field of wheat is not eligible for certification if planted on land which grew wheat or had wheat planted on it during the previous twelve months unless certified seed of the same variety was used. Herbicide tolerance is not a suitable substitute for this restriction.

III. FIELD INSPECTION

- A. A field of wheat for certification shall be inspected by a representative of the Kansas Crop Improvement Association after the crop has begun to ripen but before harvest, the crop automatically becoming ineligible for certification if harvested before the field inspection is made.
- B. Inspection may be made without giving previous notice to the applicant.

IV. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land clearly defined by distinct lines of demarcation.

2. Isolation

A field of wheat for certification shall be isolated from any other wheat variety and/or from wheat of the same variety that do not meet the varietal purity and seed history requirements for certification by at least the following distances:

Foundation	50 feet
Registered	30 feet
Certified	20 feet

A field of wheat for certification shall be separated from rye, triticale or barley by a permanent mark such as a fence or a road, or by a strip of ground, a ditch, or some other distinct line of demarcation.

B. Specific Requirements

- 1. The following table gives the maximum tolerance of diseases and impurities allowed in a field of wheat eligible for certification:

Factor	Maximum Permitted in Each Class		
	Foundation	Registered	Certified
Other varieties*	1 head in 10,000 (0.01%)	1 head in 5,000 (0.02%)	1 head in 2,500 (0.04%)
Oats/barley (total)	1 head in 10,000 (0.01%)	1 head in 10,000 (0.01%)	2 heads in 10,000 (0.02%)
Common Bunt** (* <i>Tilletia foetida</i> and <i>T. caries</i>)	1 plant/acre	3 plants/acre	5 plants/acre
Loose smuts	¹ 1 heads in 1,000 (0.10%)	² 3 heads in 1,000 (0.50%)	³ 10 heads in 1,000 (1.00%)
Other Diseases***	-	-	-

* Other varieties shall include plants (or heads) that can be differentiated from those of the variety being inspected but shall not include variations which are characteristic of the variety.

** If this disease is present in the production field but does not exceed the maximum tolerance, the seed must be treated to control seed-borne disease organisms before it is finally approved for distribution as certified seed.

*** If chemically controlled seed-borne diseases are noted upon field inspection or laboratory examination, proper seed treatment is required. Fields of seed wheat that contain Karnal bunt (*Tilletia indica*) shall not be eligible for certification.

¹ Effective seed treatment is required when 1 or more smutted heads per 1000 are present in the field. Seed treatment is recommended if any smutted heads are present.

² Effective seed treatment is required when 3 or more smutted heads per 1000 are present in the field. Seed treatment is recommended when 1 smutted head per 1000 are present.

³ Fields shall be rejected if greater than 10 smutted heads per 1000 are present in the field. Effective seed treatment is required when 5 to 10 smutted heads per 1000 are present. Seed treatment is recommended if 3 smutted heads per 1000 are present.

2. Prohibited weeds

A field of wheat containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection, except the rosette stage of Musk Thistle will not be grounds for rejection:

Bur ragweed (*Ambrosia grayi*)

Canada thistle (*Cirsium arvense*)

Field bindweed (*Convolvulus arvensis*)

Hoary cress (*Cardaria draba*)

Leafy spurge (*Euphorbia esula*)

Musk thistle (*Carduus nutans*)

Quackgrass (*Elytrigia repens*)

Russian knapweed (*Acroptilon repens*)

Perennial sorghum including, but not limited to,

Johnsongrass (*Sorghum halepense*)

Sorghum almum (*Sorghum x almum*)

A field infested with these weeds may be passed for certification subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, provided the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Prohibited crops (continued on next page)

A field of wheat containing uncontrolled areas of the following prohibited crops shall not be eligible for certification regardless of the state of maturity of the crops at the time of inspection.

Rye (*Secale cereale* subsp. *cereale*)

Triticale (xtriticosecale) –including hybrid of wheat x triticale

A field infested with these crops may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the rye and/or triticale is plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

4. **Objectionable weeds/crops**

A field of wheat containing the following objectionable weeds and crops at inspection time may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, except that seed from a field found to contain jointed goatgrass or the wheat x jointed goatgrass hybrid, which will require the use of a length grader or gravity table during conditioning.

Cheat/japanese brome/downy brome (all Bromus spp. except B.inermis)

Dock (Rumex spp.)

Jointed goatgrass (Aegilops cylindrica) – including hybrid of wheat x jointed goatgrass

Hedge bindweed (Calystegia sepium)

Morningglory (Ipomoea spp.)

Pennycress (Thlaspi arvense)

Hairy vetch (Vicia villosa subsp. villosa)

Wild buckwheat (Polygonum convolvulus)

Wild mustard (Brassica spp.)

Wild onion or wild garlic (Allium spp.)

Wild oats (Avena fatua L)

V. SEED SAMPLES

A sample of at least ten (10) pounds, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to represent the entire lot of seed.

VI. SEED STANDARDS

A. The cleaned seed inspection sample or subsequently drawn ten-pound samples shall meet the following requirements for certification:

Factor	Standards for Each Class		
	Foundation	Registered	Certified
Pure Seed (minimum)	99.00%	98.50%	98.50%
Inert matter (maximum)	1.00%	1.50%	1.50%
Weed Seed (maximum)	0.05%	0.05%	0.05%
but not to exceed	3/lb.	3/lb.	3/lb.
Prohibited weed and crop seed*	none	none	none
Objectionable weed and crop seed**			
Morningglory or wild buckwheat (maximum total)	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Bromus spp. (maximum total)	none	1 in 10 lbs.	2 in 10 lbs.
Harry vetch	none	2 in 10 lbs.	5 in 10 lbs.
Other	none	none	none
Other crop seed			
Oats and barley (maximum total)	1/lb.	1/lb.	1/lb.
All other crops	none	1/lb.	2/lb.
Red wheat in white-seeded varieties*** (maximum)	0.05%	0.10%	0.20%
All other varieties** (maximum)	0.05%	0.10%	0.20%
Germination (minimum)	85.00%	85.00%	85.00%
Test weight (lb./bu.)			
Spring wheat	54	54	54
All other types	56	56	56

*As listed in Section IV.B.2., IV.B.3., and IV.B.4. of these standards.

**Other varieties shall include seeds that can be differentiated from those of the variety being analyzed but shall not include variations that are characteristic of the variety.

***Based on potassium hydroxide (KOH) testing of white wheat samples for the presence of red wheat seed. If the breeder's description for a variety allows for red seed variants, those variants are not included in the maximum for that variety.

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. Except as noted in Section VI.D, if deferred because of separable objectionable weed seed as listed in Section IV.B.4, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.
- D. Seed deferred due to presence of jointed goatgrass or wheat x jointed goatgrass hybrid must be reconditioned using a length grader or gravity table.
- E. Seed lots that contain Karnal bunt (*Tilletia indica*) shall not be eligible for certification.

**KANSAS CROP IMPROVEMENT ASSOCIATION
DURUM WHEAT SEED CERTIFICATION STANDARDS**

I. APPLICATION AND AMPLIFICATION OF GENERAL CERTIFICATION STANDARDS

The general certification standards, as adopted by the Kansas Crop Improvement Association, are basic and together with the following specific standards constitute the standards for certification of durum wheat seed.

II. LAND REQUIREMENTS

A field of durum wheat is not eligible for certification if planted on land which grew any kind of wheat or had any kind of wheat planted on it during the previous twelve months unless certified seed of the same variety was used. Herbicide tolerance is not a suitable substitute for this restriction.

III. FIELD INSPECTION

- A. A field of durum wheat for certification shall be inspected by a representative of the Kansas Crop Improvement Association after the crop has begun to ripen but before harvest, the crop automatically becoming ineligible for certification if harvested before the field inspection is made.
- B. Inspection may be made without giving previous notice to the applicant.

IV. FIELD STANDARDS

A. General Requirements

1. Unit of certification

The field shall be considered the unit of certification and a field cannot be divided after inspection for the purpose of certification. A field is an area of land clearly defined by distinct lines of demarcation.

2. Isolation

A field of durum wheat for certification shall be isolated from any other wheat variety and/or from durum wheat of the same variety that do not meet the varietal purity and seed history requirements for certification by at least the following distances:

Foundation	50 feet
Registered	30 feet
Certified	20 feet

A field of durum wheat for certification shall be separated from rye, triticale, or barley by a permanent mark such as a fence or a road, or by a strip of ground, a ditch, or some other distinct line of demarcation.

B. Specific Requirements

- 1. The following table gives the maximum tolerance of diseases and impurities allowed in a field of durum wheat eligible for certification:

<u>Factor</u>	<u>Maximum Permitted in Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Other varieties of durum*	1 head in 10,000 (0.01%)	1 head in 5,000 (0.02%)	1 head in 2,500 (0.04%)
Oats, barley, common wheat (total)	1 head in 10,000 (0.01%)	1 head in 10,000 (0.01%)	5 heads in 10,000 (0.05%)
Common Bunt** (<i>Tilletia foetida</i> and <i>T.caries</i>)	1 plant/acre	3 plants/acre	5 plants/acre
Loose Smut	¹ 1 head in 1,000 (0.1%)	² 3 heads in 1,000 (0.5%)	³ 10 heads in 1,000 (1.0%)
Other Diseases***	-	-	-

¹Effective seed treatment is required when 1 or more smutted heads per 1000 are present in the field. Seed treatment is recommended if any smutted heads are present.

²Effective seed treatment is required when 3 or more smutted heads per 1000 are present in the field. Seed treatment is recommended when 1 smutted head per 1000 are present.

³Fields shall be rejected if greater than 10 smutted heads per 1000 are present in the field. Effective seed treatment is required when 5 to 10 smutted heads per 1000 are present. Seed treatment is recommended if 3 smutted heads per 1000 are present.

*Other varieties shall include plants (or heads) that can be differentiated from those of the variety being inspected but shall not include variations which are characteristic of the variety.

**If this disease is present in the production field but does not exceed the maximum tolerance, the seed must be treated to control seed-borne disease organisms before it is finally approved for distribution as certified seed.

***If chemically controlled seed-borne diseases are noted upon field inspection or laboratory examination, proper seed treatment is required. Fields of seed durum wheat that contain Karnal bunt (*Tilletia indica*) shall not be eligible for certification.

2. Prohibited weeds

A field of durum wheat containing uncontrolled areas of the following prohibited weeds shall not be eligible for certification regardless of the stage of maturity of the weeds at the time of inspection, except the rosette stage of Musk Thistle will not be grounds for rejection:

Bur ragweed (Ambrosia grayi)

Canada thistle (Cirsium arvense)

Field bindweed (Convolvulus arvensis)

Hoary cress (Cardaria draba)

Leafy spurge (Euphorbia esula)

Musk thistle (Carduus nutans)

Quackgrass (Elytrigia repens)

Russian knapweed (Acroptilon repens)

Perennial sorghum including, but not limited to,

Johnsongrass (Sorghum halepense)

Sorghum alnum (Sorghum x alnum)

A field infested with these weeds may be passed for certification subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, provided the weeds are plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

3. Prohibited crops

A field of durum wheat containing uncontrolled areas of the following prohibited crops shall not be eligible for certification regardless of the state of maturity of the crops at the time of inspection.

Rye (Secale cereale subsp. cereale)

Triticale (xtriticosecale) –including hybrid of wheat x triticale

A field infested with these crops may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, if the rye and/or triticale is plowed under, pulled out, killed by chemical treatment, or otherwise controlled before the time of inspection.

4. Objectionable weeds/crops

A field of wheat containing the following objectionable weeds and crops at inspection time may be passed for certification, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the cleaned seed and submitted to the Kansas Crop Improvement Association, except that seed from a field found to contain jointed goatgrass or the wheat x jointed goatgrass hybrid, which will require the use of a length grader or gravity table during conditioning.

Cheat/japanese brome/downy brome (all Bromus spp. except B.inermis)

Dock (Rumex spp.)

Jointed goatgrass (Aegilops cylindrica) –including hybrid of wheat x jointed goatgrass

Hedge bindweed (Calystegia sepium)

Morningglory (Ipomoea spp.)

Pennycress (Thlaspi arvense)

Hairy vetch (Vicia villosa subsp. villosa)

Wild buckwheat (Polygonum convolvulus)

Wild mustard (Brassica spp.)

Wild onion or wild garlic (Allium spp.)

Wild oats (Avena fatua L)

V. SEED SAMPLES

A sample of at least ten (10) pounds, representing each lot of seed as it is to be offered for sale, shall be submitted to the Kansas Crop Improvement Association for laboratory analysis. The sample should be taken so as to represent the entire lot of seed.

VI. SEED STANDARDS

A. The cleaned seed inspection sample or subsequently drawn ten-pound samples shall meet the following requirements for certification:

<u>Factor</u>	<u>Standards for Each Class</u>		
	<u>Foundation</u>	<u>Registered</u>	<u>Certified</u>
Pure Seed (minimum)	99.00%	98.50%	98.50%
Inert matter (maximum)	1.00%	1.50%	1.50%
Weed Seed (maximum)	0.05%	0.05%	0.05%
but not to exceed	3/lb.	3/lb.	3/lb.
Prohibited weed & crop seed*	none	none	none
Objectionable weed and crop seed*			
Morningglory or Wild Buckwheat (maximum total)	1 in 10 lbs.	1 in 10 lbs.	1 in 10 lbs.
Bromus spp. (maximum total)	none	1 in 10 lbs.	2 in 10 lbs.
Hairy Vetch	none	2 in 10 lbs.	5 in 10 lbs.
Other	none	none	none
Other crop seed			
Oats, Barley & Common Wheat (maximum total)	1/lb.	2/lb.	5/lb.
All other crops	none	1/lb.	2/lb.
Germination (minimum)	85.00%	85.00%	85.00%
Test Weight (lb./bu.)	56	56	56

**As listed in Section IV.B.2., IV.B.3., and IV.B.4. of these standards.*

- B. If rejected because of prohibited weed or crop seed, seed lot will be denied certification with no recourse.
- C. Except as noted in Section VI.D, if deferred because of separable objectionable weed seed as listed in Section IV.B.4, or other crop seed, a second sample may be submitted for testing. Upon a second deferral, reconditioning will be required. If reconditioned and made certifiable, subject to a detailed laboratory examination of a ten-pound cleaned seed inspection sample taken from the reconditioned seed and submitted to the Kansas Crop Improvement Association, certification will be granted.
- D. Seed deferred due to the presence of jointed goatgrass or wheat x jointed goatgrass hybrid must be reconditioned using a length grader or gravity table.
- E. Seed lots that contain Karnal bunt (*Tilletia indica*) shall not be eligible for certification.