

**OFFICIAL STANDARDS
FOR
SEED CERTIFICATION
IN
ARKANSAS**

APPROVED AND ISSUED BY:

ARKANSAS STATE PLANT BOARD

**UNDER ACT 73 OF ACTS OF 1931
OF THE ARKANSAS LEGISLATURE
A. C. A. 1987 SECTIONS 2-18-101 - 2-18-108
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CONTENTS	PAGE
Outline of steps to Follow in Seed Certification	1
Noxious Weeds of Arkansas	2
Requirements of Becoming a State Licensed Plant Breeder	3
General Seed Certification Standards:	
(Applicable to all Crops)	5-15
Classes of Certified Seed	6
Application Deadlines	7
Fees	7
Production of Seed	8
Sampling	10
Laboratory Analysis	10
Tags and Labels	11
Certification of Seed in Bulk	12
Sale of Seed	14
Substandard Seed in Emergencies	14
Interagency Certification	14
Specific Crop Standards	
Clover, Crimson	17
Cotton	19
Cowpeas	22
Tall Fescue	23
Lespedeza	24
Okra	25
Rape Seed	26
Rice	27
Small Grains (Oats, Wheat, Rye and Barley)	28
Sorghum	30
Soybeans	32
Vetch	34
Vegetatively Propagated Turfgrass	35

OUTLINE OF STEPS TO FOLLOW IN CERTIFYING SEED

1. Write for regulations and application blank for the crop you want to certify. These are furnished by the Plant Board. Study these regulations carefully.
2. Secure approved source of seed. Check the regulation on this point.
3. Send completed application to Plant Board Office, Little Rock. Unless you use your own certified seed, be sure to include with your application a copy of the invoice showing purchase of the seed, a set of tags from one of the bags and about a one pound representative sample of the seed. Check the regulations for each crop as to time applications should be made.
4. Completely clean all planting equipment of other seeds and plant the seed for certification in a field which is relatively free of noxious weeds, and one which conforms to the regulations as to isolation from other crops and to crops grown on this field in previous years. Check the regulations on these points for the seed you are certifying.
5. Prior to the field inspection by the Plant Board, be sure to rogue your field of noxious weeds, other crops and off-type plants. This is a very important point and if the job is done well it may mean the difference of the seed being certified or disqualified.
6. Be sure to notify the Plant Board office about two weeks ahead of the expected harvest date so that the necessary field inspection can be made.
7. Completely clean all harvesting equipment and storage of all other seeds so that no mixture will occur at this point. The method of harvesting and the storage should be approved by the Plant Board (check the cotton regulations for special requirements as to ginning and storage of seed).
8. After harvest is completed, report to the Plant Board the number of bushels of seed saved for certification.
9. Keep a close check on the seed in storage to see that the moisture content is low enough to prevent heating. Before cleaning send in a representative sample for a preliminary test. This would not be an official test.
10. Use the best equipment available for cleaning and treating seed. **If you are using someone else's facilities to clean your seed, you may request that the Plant Board inspect the cleaning equipment just prior to the cleaning of your seed.**
11. New containers, approved reusable containers, or dedicated bulk bins must be used for seed that is for certification.
12. After the seed have been cleaned, notify the Plant Board and an official representative sample for an analysis and moisture test will be taken. This is the final step, and if the analysis conforms to the regulations, you are in line for tags or bulk certificates on your seed. Cottonseed may be officially sampled before being cleaned either in bulk or bags. (Note: only certified blue-tag grade may be sampled in the bulk and be eligible for tags or certificates.)
13. Tags and/or bulk certificates are issued when ordered by the applicant.
14. By carefully following the outline above you should not experience too much difficulty in getting your seed certified. If at any time you have questions or are in doubt about the next step to take, please feel free to contact the Plant Board office.

NOXIOUS WEEDS OF ARKANSAS

Every certified seed grower should know and learn to recognize the noxious weeds of the state. By knowing these weeds a certified seed grower is in a much better position to successfully rogue his fields, thus enabling him to conform more easily to the regulations. The noxious weeds of Arkansas are as follows:

1. Field Bindweed (**Convolvulus arvensis**)
2. Nutgrass (**Cyperus rotundus**)
3. Crotalaria (**Crotalaria spp.**)
4. Wild onion and/or wild garlic (**Allium spp.**)
5. Johnsongrass (**Sorghum halepense**)
6. Dodder (**Cuscuta spp.**)
7. Bermudagrass (**Cynodon dactylon**)
8. Cheat or Chess (**Bromus secalinus and/or Bromus commutatus**)
9. Darnel (**Lolium temulentum**)
10. Corncockle (**Agrostemma githago**)
11. Horsenettle (**Solanum carolinense**)
12. Purple nightshade (**Solanum elaeagnifolium**)
13. Buckhorn plantain (**Plantago lanceolata**)
14. Dock and/or Sorrel (**Rumex spp.**)
15. Blueweed (**Helianthus ciliaris**)
16. Morning Glory (**Ipomoea spp.**)
17. Hedge bindweed (**Calystegia sepium**)
18. Giant Foxtail (**Setaria faberi**)
19. Cocklebur (**Xanthium spp.**)
20. Moonflower (**Ipomoea turbinata**)
- *21. Balloonvine (**Cardiospermum halicacabum**)
- *22. Itchgrass (**Rottboellia cochinchinensis**)
- *23. Serrated Tussock (**Nassella trichotoma**)
24. Barnyardgrass (**Echinochloa crusgalli**)
- *25. Tropical Soda Apple (**Solanum viarum**)

*Prohibited in both Field Standards and Cleaned Seed Standards for all crops certified.

When found in rice, the following weeds shall, in addition, be classed as noxious, and their presence must be indicated in accordance with the requirements for other noxious weeds: (a) Red Rice (**Oryza sativa var.**), (b) Curly indigo (**Aeschynomene spp.**), (c) Tall indigo or coffee bean (**Sesbania macrocarpa**).

REQUIREMENTS FOR BECOMING A STATE LICENSED PLANT BREEDER

(A) Any person wishing to secure a license as a plant breeder shall first apply to the Board for a Qualification Data Sheet, which must be filled out in complete detail and returned to the Director, who shall place on file said data sheet and keep it available for reference at all times.

(B) Only such persons bearing a reputation for honesty, competency, and fair dealing will be favorably considered as applicants.

(C) In order to obtain a certificate as a state licensed plant breeder, all persons applying to the board for seed registration will be required to appear before the Director at a designated time and place, and stand a written examination on the scientific principles and economic phases of plant breeding, the questions to be made out and graded by the Agronomy Department, College of Agriculture and Home Economics, University of Arkansas.

(D) In case any person applied to the Board for a certificate who, operating a well established seed breeding unit regularly, has in his employment under contract (a copy of which must be furnished to the Director) one or more technically trained plant breeders, only the employed plant breeder shall take the examination. The certificate, if granted, shall be issued in the name of the applicant, but the name of the plant breeder passing the required examination must appear thereon.

(E) A grade of seventy-five will be considered a passing grade and any person making such a mark, or above, shall when he has complied with all other requirements, and produced a commercial quantity of Foundation or Registered seed, be issued a certificate as a licensed plant breeder, and be entitled to purchase a sufficient number of Foundation or Registered seed tags to cover the production of seed from the acreage that has passed all requirements.

(F) Provided, that in addition to passing the written examination the applicant shall maintain a breeding program which shall be under the observation of the Director for a period of three years, and if at the end of that time the methods used and the results obtained, are scientific and worthy, then the certificate shall be issued. Or provided, that the applicant shall employ one or more qualified plant breeders who shall have a Master's or Doctor's degree in plant breeding, and only the employed plant breeder shall take the examination, and as soon as a breeding program is started the certificate shall be issued. In addition to the name of the applicant the name of the breeder shall appear on the certificate. And provided, that if for any reason the applicant's breeding program in any crop shall be discontinued then the certificate covering that crop shall be revoked. Also, any person having a doctorate degree in plant breeding and three years experience would not be required to take the examination.

(G) Any person passing the written examination or the field observations will not be required to pass an additional examination, unless the certificate should be revoked, or his crop should fail for a period to pass the necessary field inspection.

(H) Foundation seeds shall be produced only by a person holding a certificate from the Board, entitling said person to be officially designated as a licensed _____ breeder (name of crop to be inserted in blank as said person may qualify).

(I) Any person seeking a certificate as a producer of Foundation or Registered seed must own or control land necessary in the breeding and production of seed of high purity and excellence. If the said person does not own his land, it will be necessary to furnish the Director with copies of all contracts or their equivalent, showing actual possession of the land.

(J) All seed eligible for Foundation grade and which is registered in the name of any person shall be his own or his employed plant breeder's selection, except that a licensed plant breeder may obtain Breeder seed of the crop for which he is licensed from another licensed plant breeder, or Agricultural Experiment Station, or the USDA, and produce Foundation seed from this material; provided he has written approval from the organization releasing the variety concerned. In emergency cases where there is no source of Foundation seed of a variety still in demand, any licensed plant breeder may be permitted to take the variety for purification, if necessary, and subsequently produce Foundation Seed.

1. Approval of new varieties: Those varieties (and hybrids) approved by the State Plant Board in cooperation with the Agricultural Experiment Station of the University of Arkansas will be eligible for certification. Approval shall be based on:

(a) The variety must possess superior germplasm. That is, the performance of the variety or hybrids in Experiment Station or other suitable tests (minimum of three years) is such that it will compare favorably with the varieties of the crop group now recommended by the University of Arkansas for commercial production in the state.

(b) Blends, varietal mixtures and mass crosses are not acceptable.

(c) Varieties produced under a recognized name outside of the state are not eligible for certification in the state under another name (same germplasm used).

(d) In addition to the above, the following conditions must be met:

(1) If the variety is a pure line selection, the variety or material from which the selection was made must be indicated.

(2) If the variety resulted from hybridization, the application must state who made the cross. If the line originated from a source other than the applicant's breeding nursery, a copy of written approval for use of the material from which the line was derived must accompany the application.

(3) The name must be satisfactory.

(4) The variety must be phenotypically different or possess some characteristics such as plant height, grain color, or disease resistance, etc., which will identify it from known varieties.

(5) The variety must be uniform in simply inherited plant and seed characters.

(K) Any licensed plant breeder may have produced for him, under contract and under his direct supervision, his Registered seed, provided, that each unit under contract must comply with regulations specified hereafter under specific regulations of the various crops.

(L) No person who has been granted a certificate as a licensed plant breeder shall be allowed to advertise the fact without designating in all such advertising material the crop or crops that certificate is granted for.

GENERAL SEED CERTIFICATION STANDARDS

These general standards are applicable to all crops eligible for certification, and with the specific standards for each crop will constitute the Regulations for Seed Certification.

A. Type of Certifying Organization: The Arkansas State Plant Board under Act 73 of Acts 1931 of the state legislature is the official certifying agent.

B. Purpose of Certification: The purpose shall be to maintain and make available to the public, through seed certification, high quality seeds and propagating materials of superior crop plant varieties, so grown and distributed as to insure genetic identity and purity.

C. Eligibility of Crop Varieties for Certification:

1. Those varieties approved by the State Plant Board in cooperation with the Agricultural Experiment Station of the University of Arkansas will be eligible for certification. Only one variety of the same crop may be grown for certification on a farm, except on prior approval of the certifying agency.

2. The State Plant Board 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 variety.
- (b) A statement concerning the variety's origin and the breeding procedure used in its development.
- (c) A detailed description of the morphological, physiological, and other characteristics of the plants and seed that distinguish it from other varieties.
- (d) Evidence supporting the identity of the variety, such as comparative yield data, insect and disease resistance, or other factors supporting the identity of the variety.
- (e) A statement delineating the geographic area or areas of adaptation of the variety.
- (f) A statement of 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.

3. Varieties may also be admitted into seed certification after favorable action by one or more of the following:

- 1) National Certified Variety Review Board
- 2) Plant Variety Protection Office (must also include information listed in C. 2- e, f, g, h, and i above)
- 3) AOSCA member agency
- 4) Varieties eligible for certification under O.E.C.D. Seed Schemes

D. Classes of Certified Seed and Definition of Terms: Four classes of seed shall be recognized for seed certification. These classes shall meet the specific requirements approved for each crop. These classes are as follows:

1. Breeder Seed (A class reserved for licensed plant breeders). Breeder seed shall be seed directly controlled by the originator, or in certain cases, the sponsoring plant breeder, which is used in developing and maintaining a variety, and is never available to the public for general use. Breeder seed is used for the production of Foundation, Registered or Certified Seed. If Breeder seed is to be tagged, it must be tagged with a white tag labeled "Breeder Seed".

2. Foundation Seed. Foundation seed shall be the progeny of Breeder (or Foundation) seed so handled as to most nearly maintain specific genetic identity and purity of the variety as described by the breeder in its approved release and/or as described in the registration of the variety as approved by the National Committee on Registration of Crop Varieties, and meets the standards approved for this class. Foundation seed shall be produced only by or under the direct supervision of a licensed plant breeder. White tags shall be used to designate this class.

3. Registered Seed. Registered seed shall be the progeny of Foundation seed that is so handled as to maintain satisfactory genetic identity and purity, and meets the standards established for this class by the certifying agency. Purple tags shall be used to designate this class.

4. Certified Seed (Blue Tag). Certified Blue Tag class seed shall be produced from either Foundation or Registered class seed that has been so handled that it meets the standards established for this class. A blue tag or label shall be used to designate this class.

Note: At the discretion of the certifying agency a grower may be permitted to continue production of seed for certification from lots of seed that were fully inspected but rejected because of factors which did not involve genetic identity and purity of germplasm.

5. Off-type. Off-type means a plant or seed which deviates in one or more characteristics from the description filed with the certifying agency by the breeder as being usual for the strain or variety.

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

1. Recertification of the Certified class may be permitted when no Foundation is being maintained.

2. The production of an additional generation of the Certified class may be permitted on a 1-year basis only, when an emergency is declared prior to the planting season by the State Plant Board, stating that the Foundation and Registered seed supplies are not adequate to plant the needed Certified acreage of the variety. The additional generation of Certified seed to meet the emergency need is ineligible for recertification.

F. Establishing Source of Seed: Any person applying for certification on a crop planted from seed other than his own production, must submit with his application, a copy of purchase invoice with identity, or other documentary evidence to provide source, quantity, and class of seed planted. If application covers seed of own production, the applicant shall identify the lot number, quantity and class of seed being planted.

G. Application:

A. The State Plant Board will furnish application blanks for certifying seed. The dates for filing applications on the various crops are as follows:

Small Grains (oats, wheat, rye, barley).....	April 1
Red, white and crimson clover and watermelons....	April 20
Rapeseed and Eastern Gamagrass.....	May 1
Fescue, vetch and okra.....	May 15
Corn.....	June 1
Rice, cotton, lespedeza and cowpeas.....	July 1
Soybeans.....	August 15
Sorghum.....	September 1

B. The State Plant Board will furnish application blanks for certifying vegetatively propagated turfgrass applications. The date for filing applications is March 1st.

Applications should be made on or before the above dates. Late applications may be accepted provided they can be processed and the inspection made without jeopardizing the handling of those applications filed prior to the deadline date. The fee for late applications will be an additional \$50.00 for each variety applied on. The applicant must have in force a valid Seed Labeler's License or Certification Permit (**Refer to Circular 10: Regulations on the Sale of Planting Seed in Arkansas, Section 5. Fees.**)

H. Fees: The application fee and the acreage inspection fee shall be paid at the time the application is filed for all crops except cotton. The acreage inspection fee on cotton shall be paid prior to the time the field inspection is made.

1. The application fee for all seed crops for each variety shall be \$20.00 and the acreage inspection fee shall be \$1.50 per acre for all crops, except rice, which shall be \$2.25 per acre.

(a) An additional ten cents per acre shall be paid in advance on each acre of certified seed with each application. These fees shall be remitted through the Arkansas Seed Growers and Seed Dealers' Associations to the Arkansas Seed Council for promotion and advertising purposes for Arkansas certified seed.

(b) Promotion and advertising fee needs shall be reviewed annually by the Plant Board and adjusted if necessary at the request of the Arkansas Seed Dealers and Seed Growers Associations after a public hearing.

2. (a) Tags/Labels:
Printed pressure-sensitive labels.....10 cents each
Printed pressure-sensitive labels for

approved reusable bulk containers.....8 cents/50 lbs.

Unprinted tags and labels may be purchased at one-half the price of printed tags/labels when ordered in quantities of 5,000 or more. No refunds will be made for unused tags/labels.

(b) Blue Tag Bags/Approved New or Reusable Containers:

Those applicants equipped and approved to label Blue Tag Grade seed on the containers shall report the amount in each lot so labeled.

Blue Tag Bags.....8 cents/bag

Approved New or Reusable containers:

Rigid Mini-bulk Containers.....8 cents/50 lbs.

Flexible Mini-bulk Containers (Superbags)....8 cents/bushel

(c) Bulk Certificates:

Those applicants selling crops eligible for bulk certification shall report the amount of each lot sold on bulk certificates and pay 8 cents/bushel.

Bulk Certificate forms (used for all sales including a movement of the seed)....\$0.25 each.

3. Extra Inspections: When an extra inspection is necessary because of findings of a previous inspection, the fees are as follows:

- a) 1. Seed treating equipment only - \$7.50 for each trip.
- 2. Seed processing plant or other similar inspections - \$15.00 for each trip.
- 3. Isolation - \$25.00 for each field/trip.

On inspections requiring more than 2 hours, \$10.00 per hour will be charged for each additional hour.

- b) Fields failing inspection - no more than 2 re-inspections will be made: the 1st reinspection will be charged one half the acreage inspection fee for the crop kind per acre reinspected; the 2nd reinspection would be the same as the acreage fee per acre for that crop.

4. Annual License Fee for a Registered Seed Technologist to analyze seed of designated crops for Certification in Arkansas-\$25.00.

5. Fees for Vegetatively propagated turfgrasses:

Application Fee: \$20.00 for each variety.

Pre-plant inspections (to determine if meets land requirements):

- a) Pre-plant inspection: \$25.00 per field per trip
- b) If field fails pre-plant inspection and re-inspection is necessary, re-inspection fees are \$50 per field per trip.

Acreage Inspection fees: \$500.00 for the first ten acres and \$12.00 per acre for each additional acre. This includes the three required inspections* and official numbered certificates required for each shipment of certified sod, sprigs or plugs.

*Any re-inspections necessary between regularly scheduled inspections will be conducted at \$50 per field per trip.

I. Production of Seed:

- 1. **Maintenance of Genetic Purity and Identity.** The applicant for certification shall be responsible

for maintaining genetic purity and identity at all stages of certification, including seeding, harvesting, storage, processing and labeling of the seed. Failure of the applicant to maintain genetic purity and identity at any stage of certification shall be cause for rejection of the crop for certification.

2. **Unit of Certification.** The unit of certification shall be a clearly defined field or fields.

3. **Roguing Fields.** Prior to the field inspection, applicants should rogue and remove from their fields noxious weeds, off-type plants, varietal mixtures and any other plants, the seeds of which are inseparable from the crop being certified. Where extra inspections are requested, an additional charge will be made (see section 3, under Fees).

4. **Field Inspections.** One or more field inspections will be made as is deemed necessary by the certifying agency. Field inspections will be made during a period when genetic purity and identity can best be determined. Fields must be inspected prior to any treatment used for drying or any action taken that would hinder a proper field inspection for variety and/or weed identification. All fields must show signs of good management and be clean enough to permit inspectors to make complete observation of the crop being certified. Applicant shall have someone available to show the inspector the fields that are to be checked.

J. Cleaning Equipment: It is the applicant's responsibility to make sure that all seeders, drills, wagons, trucks, harvesters, cleaners, bins, etc., are thoroughly cleaned of other seeds. The applicant may, before starting to clean seed, secure the Board's approval of the cleaning equipment. (See FEE section for the cost(s) of this optional service.)

K. Storage and Storage Inspection:

1. Seed must be stored in dry, well-ventilated water-proof buildings accessible for inspection. If in bulk, it must be separated from any other bulk seed by tight walls which will in no way permit mixing. This applies to different strains or grades of the same variety.

2. At least one storage inspection will be made by a representative of the State Plant Board at such a time as is deemed most appropriate by the certifying agency.

L. Processing of Seed:

1. The following requirements must be met by processors of all classes of certified seed:
 - (a) Facilities shall be available to perform processing without introducing admixtures.
 - (b) Identity of the seed must be maintained at all times.
 - (c) Records of all operations relating to certification shall be complete and adequate to account for all incoming seed and final disposition of seed.
 - (d) Processors shall permit inspection by the certifying agency of all records pertaining to all classes of certified seed.
 - (e) Processors shall designate an individual who shall be responsible to the certifying agency for performing such duties as may be required by the certifying agency.
 - (f) 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 State Plant Board.
 - (g) 1. All seed approved for certification must be packed in new containers or approved reusable containers as indicated below.

Registered Grade:

- a) New flexible mini-bulk (superbags) or rigid mini-bulk containers

(as approved by the Plant Board Seed Division) for all crops.

Note: Lot size for registered grade crops packed in these containers is limited to 3,000 bushels per lot.

Blue tag Grade approved reusable containers are the following:

- a) Rigid Mini-bulk containers, (as approved by the Plant Board Seed Division,) for soybeans, rice or wheat.
- b) Flexible Mini-bulk containers (Superbags - new or cleaned) for soybeans, rice or wheat.

2. Blue-tag grade wheat may be sold in bulk (see Section P).

(h) New moisture tests are not required on lots after treatment (with fungicides, etc.) if the lot met the standards for moisture when sampled for complete analysis before treatment.

2. Bulk Transfers:

Seed eligible for certification may be sold from one seedsman to another while in bulk, provided, that the identity of the seed has been maintained at all times and that the appropriate documents have accompanied the shipment. Contact the Plant Board for specific instructions.

Inspectors shall make random checks to see that the seed is being properly handled.

Note: See special requirement for processing cottonseed under regulations for cotton.

M. Sampling: An official sample of each lot of seed to be certified shall be obtained by a representative of the State Plant Board, at the request of the applicant, from those lots that are so stored that a complete representative sample may be drawn. These samples will be drawn according to the rules of the Association of Official Seed Analysts. These samples, if used as a basis for approving lots for certification, shall be taken only from lots that have been cleaned, graded, and packed in approved containers, each of which is printed or stenciled to show the lot number, except that, all grades of cottonseed may be sampled in bulk, and Blue Tag Grade seed of all other crops may be sampled in bulk provided the seed has been cleaned and graded.

In order to secure a representative sample, equal portions shall be taken from evenly distributed parts of the quantity of seed to be sampled. Access shall be had to all parts of that quantity. When more than one trierful of seed is drawn from a bag, different paths shall be followed. When more than one handful is taken from a bag, the handfuls shall be taken from well-separated points. Sampling of seed for certification shall be accomplished by one of the following approved sampling methods:

1. If seed is sampled after processing and closing of bags, a probe or trier long enough to sample all portions should be used for free flowing seed. Non-free flowing seed, such as certain grasses and other seeds difficult to sample with probe or trier, shall be sampled by thrusting the hand into the bag and withdrawing representative portions.

When sampling closed bags in quantities of one to six bags, sample each bag and take a total of at least five trierfuls or handfuls. For lots of more than six bags, sample five bags plus at least 10% of the number of bags in the lot. Regardless of lot size, it is not necessary to sample more than thirty bags.

2. If seed is sampled in bulk it shall be sampled by automatic sampler, turning the bin, or inserting a long probe or thrusting the hand into the bulk as circumstances require in at least seven uniformly

distributed parts of the quantity being sampled. At least as many trefuls or handfals shall be taken as the minimum which would be required for the same quantity of seed in bags of a size customarily used for each seed.

N. Laboratory Analysis: An official laboratory analysis will be made by the State Plant Board Laboratory. Also, a Registered Seed Technologist approved and licensed by the State Plant Board may run an official analysis on seed for certification of designated crops only. These analyses will be conducted according to the rules of the Association of Official Seed Analysts, and will be made from samples obtained by State Plant Board Inspectors. The sample on which the purity analysis and noxious weed seed examination is made will not be less than the minimum weights for working samples required by the State Plant Board's certification regulations for the grade and kind of seed. Confirmation tests will be made by the State Plant Board on samples tested by a licensed Registered Seed Technologist and used as a basis for labeling seed for certification. Such confirmation tests must show that the seed is truthfully labeled and meets the minimum standards for the grade and kind of seed.

O. Tags and Labels for Approved Containers:

All classes of certified seed, when offered for sale, shall have an official certification label affixed to each container, clearly identifying the certifying agency, the reference number, the kind and variety name, and class of seed. Chemically treated seed shall be labeled to comply with the seed laws.

1. Traditional Containers: Each container of certified seed, when sold or offered for sale, shall bear a certification label obtained from the Plant Board, or an approved label, carrying a complete analysis of the seed and all required labeling.

2. Mini-bulk Containers (such as the flexible or rigid containers as listed in section L.(g): During conditioning, each bag will be labeled with kind, variety and lot number. When offered for sale or sold, each container shall bear a certification label with all required labeling. The weight may be left blank when labels are printed and written in ink on each label. (Seedsmen who have equipment allowing equal weight in each bag of a lot, may use labels with weight printed in.)

3. Blue-tag Bags/Preprinted labels: Labeling for Blue Tag grade seed may be imprinted directly on the container in lieu of using tags. In this case the Blue Tag grade certification label may be printed on the container at the factory. Orders for containers printed in this manner shall be filed with the Plant Board for prior approval before being printed. Each applicant is responsible for seeing that his certified seed is correctly bagged and labeled. Tags will be issued and orders for pre-printed containers will be approved on orders from the applicant only.

An applicant has the option of having the Plant Board print the complete analysis on the certification tag, or he may have the tags issued showing his permit number or other identification numbers, or if equipped and approved may label the containers for Blue Tag Grade seed in lieu of using tags. In cases where the applicant completely prints his tags or labels, he shall furnish the Plant Board a true copy of a specimen tag or label for each lot so labeled and when labeled. In no case can the analysis used be below the minimum standards established for the grade and crop being certified. The Plant Board will make periodic checks and/or audits to verify the correct use and disposition of certified tags, pre-printed containers, and other labeling used.

4. Labeling Seed for Contract Producers: When an applicant for certification has contract producers under his own application, and the seed furnished these contract producers was grown by the applicant, or furnished from any other source, then such seed shall be identified with a lot number on each container, if bagged, and shall be truly represented as to purity and germination with a complete analysis affixed to each container or to the delivery ticket.

5. Securing Labels: Certification labels other than those printed on the containers shall be attached to containers in a manner which prevents easy removal and re-attachment.

(a) With fabric bags or open top paper bags, it is recommended that the tag be sewn on, or in the top of the bag.

(b) With valve filled paper bags and plastic bags or containers (including metal), it is recommended that the label be glued to the container with an adhesive which prevents removal without destroying the label.

(c) Closing of paper, plastic, and metal containers will vary. The most satisfactory method is that of cementing the closure with an adhesive (glue, pressure sensitive, thermo-plastic, etc.), which prevents entry to the container without leaving noticeable evidence of such tampering. Cementing the certification label over the enclosure is recommended where practical.

(d) Special stapling devices may be used to seal the package and attach the certification label. Any such staple should be unique to certification, with a distinctive design or lettering. Ordinary stapling devices are not recommended, but may be used.

(e) "Valve filled" paper bags shall be considered adequately closed and sufficiently tamper-proof.

(f) Mini-bulk Containers (such as the flexible or rigid containers as listed in section L. (g): After filled and sampled for grade, bag shall be sealed with a seal. Before shipping and after approval for grade, the label will be attached and sealed to prevent removal.

P. Certification of Seed in Bulk:

Seed eligible for bulk certification shall meet all field and clean seed standards for certified seed as specified in these regulations. All rules for production, conditioning, and testing of certified seed shall apply, except that seed does not have to be in bags.

1. Limitations:

a. **Only seed of wheat may be certified in bulk.**

b. Certification of seed in the bulk shall be limited to the certified (BT) class.

c. Lots are limited to the size of the bin.

d. Seed certified in the bulk and sold in the bulk shall not be eligible for recertification.

e. If any seed is bagged out of a dedicated bulk bin after conditioning and sampling for certified grade of the bulk lot is completed, a voided bulk certificate for the amount bagged must be sent to the certification office. (Reminder- Certified labels on bagged seed must have originating certified

grower's certification #.)

- f. **Bulk sales shall be limited to a maximum of two movements:**
- 1) from applicant producer to an approved retailer or consumer.
 - 2) from approved retailer directly to the consumer who will plant the seed.
- (Form 24 Bulk transfers of seed between certified growers/seedsman are unlimited.)

2. Application for bulk certification:

- a. In order for a seedsman/producer or retail facility to sell bulk certified seed, an application for bulk certification and order for bulk certificates must be made to the Arkansas State Plant Board Seed Certification office, no later than December 15th for wheat. Retail Seed Facilities that are not certified producers/dealers must secure approval from the Arkansas State Plant Board. Application for a retail facility to sell bulk certified seed from their facility will be approved after the applicant's storage has been inspected and acceptable procedures for receiving, storing, dispensing and record keeping for maintaining identity of the seed have been demonstrated.
- b. Each seedsman and/or retail seed facility must have in force a current Arkansas Bulk Certification Permit for each location where bulk seed will be sold. Each facility will be subject to inspection by the Plant Board to assure acceptable procedures are being used in handling, storing, dispensing and record keeping for maintaining identity of bulk certified seed. **The Bulk Certification Permit fee is \$10.00 for each Retail location.**
- c. Justified complaints from inspectors and/or consumers of bulk certified seed will be handled through the civil penalty enforcement process and/or arbitration.

3. Storage Requirements:

- a. A separate storage bin must be available for each variety that will be sold in bulk.
- 1) Lots purchased from other certified dealer/producers must be maintained as separate lots.
- b. All bins must be clearly and prominently marked to show crop and variety. The identity of all bulk lots (bin designations and lot numbers) must be maintained until the entire lot is disposed of.
- c. Storage must be such that genetic purity and identity can be maintained. All bins must be constructed so that bin openings can be kept closed to prevent contamination.

4. Records/Bulk Certificate Fees:

- a. The serially numbered bulk certified seed certificate takes the place of the certified seed tag. The buyer must receive a certificate for each load of bulk certified seed. The required labeling information of the seed sold will be pre-printed on the certificates or written in ink on the bulk certificate at the time of the sale. A copy of the certificate and any voided certificate must be returned to the seed certification office at the end of the season.

Bulk Certificates (used for all sales including a movement of the seed) from a Certified Dealer/Producer to a Bulk Retail Facility or farmer will cost \$0.25 each.

Copies of bulk certificates and a fee of \$0.08 per bushel for the total amount sold as bulk certified shall be returned to the certification office at the end of each crop season (Jan. 15th for wheat).

- b. The following records must be maintained:
 - The amount of seed grown, conditioned or purchased for bulk sale.
 - The amount of bulk seed sold by variety and lot number.
 - Current inventory of seed available for sale of each variety.

At the end of each crop season (Jan. 15 for wheat), a bulk certified sales summary for each variety and lot number shall be sent to the Certification office regarding all sales of bulk certified seed. Copies of retail certificates used as well as all unused certificates shall be returned at this time.

- 5. Sampling:
 - a. Official samples for complete test must be drawn from the cleaned seed after conditioning and/or treating. After the official sample is taken, no additional seed may be added to the lot.

Q. Sale of Seed: Certified seed of any crop cannot be sold as such, under any grade, until the seed has been properly cleaned, graded, packed in approved containers, with tags/labels or (for seed allowed to be sold in bulk) accompanied with a bulk certificate.

R. Substandard Seed in Emergencies: It is recognized that in an emergency, such as unfavorable weather conditions, much seed necessary for the advancement of crop improvement would be lost if regular certification standards are adhered to. Therefore, under such circumstances, seed failing to meet certification standards other than those affecting genetic purity may be certified, provided there is no injury to the reputation of certified seed.

S. Interagency Certification: Interagency Certification may be accomplished by participation of more than one official certifying agency in performing the services required to certify a lot of seed.

1. Arkansas Certification Standards, or comparable standards of other official seed certifying agencies must be met if the State Plant Board is to issue interagency certification tags. This includes the requirement that all certified seed to be tagged by the State Plant board must be analyzed by the State Plant Board Seed Laboratory.

2. Seed to be recognized for interagency certification must be received in containers carrying official certification labels, or if shipped for processing, evidence of its eligibility from another official certifying agency, together with the following information:

- (a) Variety (if certified as to variety), and kind.
- (b) Quantity of seed (pounds or bushels).

- (c) Class of certified seed.
- (d) Inspection or lot number traceable to the previous certifying agency's records.

3. Each label used in interagency certification shall be serially numbered, or carry the certification identity number and clearly identify the certifying agencies involved and the variety (if certified as to variety), kind and class of certified seed.

T. Responsibilities:

1. Responsibility for any obligations, other than those concerned with certification, arising from the sale or shipment of seed which has been certified rests with the grower or subsequent handler making the sale or shipment.

2. Performance of the applicant's seed must closely approach any advertised claims.

3. If the applicant cannot give personal supervision to all operations, a competent and careful person should be put in charge, who thoroughly understands the requirements for certified seed production. No exceptions can be made for failure of applicant to follow regulations either through neglect or of failure to understand them.

U. Special Crops Those crops, if accepted for certification, for which no standards appear in this publication, will be certified on the basis of the minimum standards established by the Association of Official Seed Certifying Agencies.

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STANDARDS FOR CERTIFICATION OF CRIMSON CLOVER

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulation for the certification of crimson clover.

1. Reseeding types of crimson clover, before being certified, will have to be proven to reseed under Arkansas conditions.

B. Land Requirements:

1. A crop of the same kind must not have been grown or planted on the land for 5, 3 and 2 years prior to stand establishment for producing the Foundation, Registered and Certified seed classes respectively.

2. The land must be free of volunteer plants during the year immediately prior to establishment; however, reseeded varieties of Crimson Clover may be allowed to volunteer back year after year on the same ground. When a new reseeded variety is being planted where another variety once grew, the field history requirements apply.

3. No manure or other contaminating material shall be applied the year previous to seeding or during the establishment and productive life of the stand.

C. Field Standards:

1. **Isolation:** All fields used for the production of certified seed must have the minimum isolation distance from fields of any other variety, or fields of the same variety that do not meet the varietal purity requirements for certification, as given in the table below:

Isolation For -	Foundation	Registered	Certified Blue Tag
Fields of less than 5 acres	100 rods	60 rods	30 rods
Fields of more than 5 acres	60 rods	30 rods	20 rods

2. Field Inspection:

Factor		MAXIMUM PERMITTED IN EACH CLASS		
			Registered	Certified Blue Tag
Other Varieties	1.	None	.02% (1 in 5000)	.05% (1 in 2000)
Objectionable Noxious Weeds	2.	None	None	None

1. **Other varieties shall be plants that can be differentiated from the variety being inspected.**

2. **Objectionable noxious weeds shall include field bindweed, nutgrass, dodder, wild onion or wild garlic, johnsongrass, balloonvine, serrated tussock, itchgrass, and tropical soda apple.**

D. Standards for Cleaned Seed:

Factor	STANDARDS FOR EACH CLASS		
		Registered	Certified Blue Tag
Pure Seed (minimum)	98%	98%	98%
Other Varieties or Other Crop (maximum)	18 per lb.	18 per lb.	27 per lb.
Other Noxious Weeds & Crops 2.	None	None	None
Objectionable Weeds 1.	None	18 per lb.	27 per lb.
Total Weed Seed (maximum)	.25%	.25%	.5%
Inert Matter (maximum)	2%	2%	2%
Germination, Including Hard Seed (minimum)	85%	85%	85%

1. Objectionable weeds shall include perennial wild geranium (*Geranium maculatum*), cleavers (*Galium aparine*), darnel, corncockle and buckhorn plantain.
2. Crimson clover certified for any class shall be free of seeds and/or bulbs of all the other noxious weeds of Arkansas not listed above, also, mustards, rapes, turnips, balloonvine, serrated tussock, itchgrass, and tropical soda apple.

STANDARDS FOR THE CERTIFICATION OF COTTONSEED

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for the certification of cotton.

B. **Licensed Cotton Breeders:** A licensed cotton breeder producing Foundation and Registered seed shall maintain a complete cotton breeding unit consisting of single stalk selections, inbred lines, or hybrids, planted in "plant-to row, or mass selection plots"; first, second, and third year multiplication plots and producing fields; all of which shall be well marked, so that their identity in the field is maintained. Complete records shall be kept showing the planting scheme, giving comparative data on the characteristics of the above work for at least three years. He shall have available for use such small gins, scales and other equipment that is necessary to efficiently process the breeding plots. Said equipment and records shall be available for inspection by Plant Board representatives at all times.

C. Application and Classes:

1. Application for the production of Foundation, Registered, or Blue Tag certified seed must cover the entire cotton acreage of the applicant, including the entire acreage of tenants and contract growers.

A. Contract growers for a licensed plant breeder may only produce one variety on any farm unit or as per specifications of the originating breeder and/or institution and approved by the State Plant Board.

B. Applicants producing Certified Seed shall produce only one variety, except that if applicant or his tenants, or contract growers have other farms which are operated as separate units as to labor and equipment, these units may be planted either with non-certified cotton or with certified cotton of another variety or grade.

2. Applications must be filed with the Plant Board by July 1, so an inspector may check and sample the seed to be planted.

D. Field Standards:

1. The isolation required for the various classes is shown in the table below:

Class	Cottons of similar staple length and plant characters:	Cottons of widely different staple length and plant characters:
Foundation	15 ft.	300 ft.
Registered	15 ft.	300 ft.
Blue Tag Certified	15 ft.	100 ft.

Note: The isolation required from cottons, such as red or sea island, shall be one-fourth mile.

2. Cotton plants in adjoining fields, if within the distances shown in the table above, must be destroyed by disking or shredding, otherwise the field will be disqualified. Marking off the too-near strip, picking and ginning it separately, or furnishing certified seed to be planted in the too-near strip is not permissible in lieu of cutting back, nor is the use of barrier rows of corn or sorghum in place of these distances. If a field is cut back, and destroyed by disking or shredding, this must be verified by a Plant Board inspector before the field is picked.

3. If a field is disqualified, this will also disqualify all other cotton which is produced with the same labor and equipment unless arrangements can be made, satisfactory to the Plant Board, for the separate harvesting and ginning of the disqualified field. **Example:** If one of a contract grower's fields is disqualified because of varietal mixture, or nearness to other cotton, all other fields of this contract grower, which are farmed with the same labor and equipment, would be thrown out unless satisfactory arrangements can be made to harvest and gin the disqualified field separately.

4. Fields for certification shall meet the standards shown in the table below at the time the field inspection is made:

Factor	MAXIMUM PERMITTED IN EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other varieties- definite including off-type plants	None	1 plant per acre	5 plants per acre
Balloonvine, Serrated Tussock and Itchgrass	None	None	None

E. Ginning and Storage:

1. A licensed plant breeder shall show that he has complete control of a gin upon which no other cotton shall be ginned for the season except that being grown under his own application. If the breeder does not own the gin, then a copy of the contract with the owner of the gin must be supplied to the Plant Board. If a licensed plant breeder can fulfill all other regulations herein, but has insufficient acreage to enable him to get control of a separate gin, this fact may be made known to the Director, and if it shall appear practical, the Director may grant special permission for such cotton to be ginned on a custom gin, **provided**, before doing so the applicant will furnish copy of the ginning contract, showing permission for dropping the rolls, and otherwise thoroughly cleaning the gin according to the Plant Board Seed Certification gin clean up procedures:

- A. The Arkansas State Plant Board Seed Certification Office will be notified in advance of scheduled ginning of certified cotton. Notification will be repeated when changing varieties, before ginning the new variety.
- B. The gin must be thoroughly cleaned just prior to ginning any Foundation or registered cotton. This includes dropping the rolls and making sure all conveyers and seed handling systems are cleaned. Floors should be swept or blown free of all seed cotton. This should be followed by a five minute or more dry run of the gin until all loose seed is eliminated from the system.
- C. After start-up, gin three (3) bales per stand and divert to an alternate location before saving any planting seed.
- D. Seed company representatives will supervise the clean-ups, complete and sign the Gin Inspection Form, sending the original to the Arkansas State Plant board Seed certification Office.
- E. The Arkansas State Plant board may audit the above procedures as deemed necessary.

All ginning records must be kept available to the Director and his deputies. The Director is empowered to lay down special rules of ginning in individual cases. Foundation or Registered seed ginned on a custom gin must be stored in a building or room which has no direct connection with the gin, such as pipes or augers.

2. Blue tag certified cotton and registered grade cotton, grown by anyone other than a licensed

plant breeder, or under his contract, shall be ginned on a certified one variety gin, that is, one which, after being thoroughly cleaned is inspected and certified by the State Plant Board as capable of maintaining a seed purity equal to or better than that required by the standards set for certified seed of the variety and grade being produced. It shall then become and remain a one variety gin for as long as it subsequently gins the one variety, strain or grade for which it has been certified, and complies with all other Plant Board regulations.

3. The gin, methods of handling the seed, and the seed storage must be inspected and approved in advance of the ginning season, as many inspections, as deemed necessary by the certifying agency, shall be made during the ginning and processing season. Inspector will examine gin records, check methods of handling seed, condition of storage, thoroughness of cleaning seed, to see that all regulations have been met.

F. Processing Seed:

1. If seed is processed at an applicant's own plant, both the storage at the processing plant and all handling and processing machinery shall be thoroughly cleaned, then inspected and approved before the seed is processed. A licensed plant breeder shall be permitted to process his Arkansas grown seed in his own plant outside the state; however, the plant must be within a reasonable distance of the state border so that it can be properly supervised by the State Plant Board, otherwise all other cottonseed for certification shall be processed on a plant within the state borders.

2. If cottonseed for certification is to be processed on a custom plant, the following conditions shall be met: (1) All storage, processing and handling equipment shall be completely cleaned of other seeds, then inspected and approved by a State Plant Board representative prior to processing the seed. No inspection shall be necessary when changing from one applicant's seed to another's seed of the same variety, and the same or lower grade; (2) If the seed is delivered to the processing plant in bulk, it shall be in the applicant's own cleaned truck, unless otherwise authorized; (3) The seed shall be bagged as it is processed in containers that are printed, stenciled, or tagged in some way to identify the applicant, lot number, and the variety; (4) The processor shall keep a daily record of all seed processed, both certified and non-certified, which shall be available for inspection at any time.

G. Seed Standards:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	99%	99%	99%
Other crop	None	None	None
Cocklebur (maximum)	None	1 seed in 4 lbs	1 seed in 2 lbs
Other Noxious Weeds including sandbur	None	None	None
Total Weed Seed (maximum)	.0%	.01%	.02%
Inert Matter (maximum)	1%	1%	1%
Moisture (maximum)	12%	12%	12%
Germination (minimum)	80%	80%	80%

STANDARDS FOR CERTIFICATION OF COWPEAS

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for certification of cowpeas.

B. **Land Requirements:** A crop will not be eligible for certification if planted on land where cowpeas, other than a certified crop of the same variety, were grown in the previous two years.

C. **Isolation:** A field for certification must be isolated from other cowpeas, by at least 30 feet. If the adjoining field is of the same variety and is being certified, then no isolation would be required.

D. Field Standards:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other Varieties (definite)	None	2 plants per acre	4 plants per acre
Field Bindweed, Balloonvine, Serrated Tussock, Itchgrass	None	None	None

Note: Only a small amount of johnsongrass in the field will be accepted.

E. Standards for Cleaned Seed:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	98%	98%	98%
Other Varieties (maximum)	None	1 in 4 lbs.	1 in 2 lbs.
Inert (maximum)	2%	2%	2%
Objectionable Noxious Weeds 1.	None	None	None
Other Noxious Weeds or Other Crop (maximum)	1 in 4 lbs.	1 in 4 lbs.	1 in 2 lbs.
Germination (minimum)	80%	80%	80%

1. Objectionable noxious weeds shall include field bindweed, wild onion or wild garlic, johnsongrass, nutgrass, bermudagrass, crotalaria, balloonvine, serrated tussock, itchgrass, and tropical soda apple.

STANDARDS FOR THE CERTIFICATION OF TALL FESCUE

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for the certification of fescue.

B. Land Requirements:

1. The production of foundation seed shall be on land that has not grown or been seeded to the same species during the previous five crop years.

2. The production of the registered or certified classes shall be on land that has not grown or been seeded to the same species during the previous crop year, except a certified class of the same variety equal or superior to that of the crop seeded.

C. Field Standards:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other Varieties (definite)	None	.02% (1 in 5000)	.05% (1 in 2000)
Objectionable Noxious Weeds 1.	None	None	None
Isolation 2.	80 rods	40 rods	20 rods

1. Objectionable noxious weeds shall include field bindweed, johnsongrass, wild onion or wild garlic, balloonvine, serrated tussock, itchgrass, and tropical soda apple.
2. This isolation is required from other varieties or strains of the same species in bloom at the same time.

D. Standards for Cleaned Seed:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	98%	98%	98%
Other varieties	9 per lb.	18 per lb.	45 per lb.
Objectionable Noxious Weeds 1.	None	None	None
Other Noxious Weeds or Other Crop (maximum)	18 per lb.	27 per lb.	45 per lb.
Total Weed Seed (maximum)	.3%	.3%	.5%
Inert Matter (maximum)	2%	2%	2%
Germination (minimum)	80%	80%	80%

1. Objectionable noxious weeds shall include field bindweed, wild onion or wild garlic, johnsongrass, nutgrass, bermudagrass, crotalaria, balloonvine, serrated tussock, itchgrass, and tropical soda apple.

STANDARDS FOR THE CERTIFICATION OF LESPEDEZA*

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for the certification of lespedeza.

* The Marion variety of Striate Lespedeza is allowed to be certified if it meets the Association of Official Seed Certifying Agencies (AOSCA) standards for lespedeza.

B. Land Requirements:

1. A crop of the same kind must not have been grown or planted on the land for 5, 3 and 2 years prior to stand establishment for producing the Foundation, Registered and Certified seed classes respectively.

2. During the year immediately prior to the seeding of any class of seed, the land shall be free from volunteer plants. No manure or other contaminating material shall be applied the year previous to seeding or during the establishment and productive life of the stand.

C. Field Standards:

1. **Isolation:** Lespedeza for certification must be isolated from any other field not being certified of the same or another variety, or a certified field of another variety by at least 15 feet. If the adjoining field has been sown broadcast, this distance must be at least 30 feet.

2. Field Inspection:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other Varieties	.02% (1 in 5000)	.03% (3 in 10,000)	.05% (1 in 2000)
Objectionable Noxious Weeds 1.	None	None	None

1. Objectionable noxious weeds shall include field bindweed, wild onion, dodder, johnsongrass, balloonvine, serrated tussock, itchgrass, and tropical soda apple.

Note: Field must be inspected each year a crop of seed for certification is harvested whether lespedeza was seeded the same year or was a volunteer stand.

D. Standards for Cleaned Seed:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	98%	98%	98%
Other Varieties or Other Crop (maximum)	27 per lb.	45 per lb.	45 per lb.
Objectionable Noxious Weeds 1.	None	None	None
Other Noxious Weeds (maximum)	27 per lb.	45 per lb.	45 per lb.
Inert Matter (maximum)	2%	2%	2%
Weed Seeds (maximum)	.5%	1%	1%
Germination including Hard Seed (minimum)	80%	80%	80%

1. Objectionable noxious weeds shall include field bindweed, wild onion, dodder, johnsongrass, nutgrass, bermudagrass, crotalaria, balloonvine, serrated tussock, itchgrass, and tropical soda apple.

STANDARDS FOR THE CERTIFICATION OF OKRA SEED

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for the certification of okra seed.

B. **Land requirements:** The crop to be certified must not be sown on land which has within the last three years produced a crop of another variety of okra or an uncertified crop of the same variety. It is suggested that land used be as nearly free of nematodes as possible.

C. **Handling Crop Prior to Field Inspection:** The grower will be responsible for the roging of fields on which certification is requested. The following program is suggested:

1. Check the field just before the first blossoms open and remove all volunteer okra plants.
2. When the young plants and pods have assumed definite varietal characteristics, inspect the field and remove all off-type plants.

D. **Field Standards:**

1. **Isolation:** The field to be certified must be isolated from non-certified okra or certified okra of another variety by at least one-fourth mile.
2. **Field Inspection:** Two field inspections will be made. The first, as soon as the first blossoms are open and the second when the first pods are ready for harvest.

Factor	MAXIMUM PERMITTED - RATIO OF PLANTS		
	Foundation	Registered	Certified Blue Tag
Other Varieties (definite)	None	1:2500	1:1250
Other Varieties (doubtful)	None	1:750	1:500

E. **Standards for Clean Seed:**

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	N.S.	98.00%	98.00%
Inert Matter (maximum)	N.S.	2.00%	2.00%
Weed Seeds (maximum)	0.05%	0.05%	0.10%
Objectionable or Noxious Weed Seeds (maximum)*	None	None	None
Total Other Crop Seeds (maximum)	None	0.02%	0.07%
Other Varieties (maximum)	None	0.01%	0.05%
Other Kinds (maximum)	None	0.01%	0.02%
Germination & Hard Seed (minimum)	N.S.	70.00%	70.00%

* Objectionable noxious weeds shall include field bindweed, johnsongrass, nutgrass, crotalaria, balloonvine, serrated tussock, itchgrass, and tropical soda apple.

STANDARDS FOR THE CERTIFICATION OF RAPE SEED

A. The general seed certification standards are basic, and together with the following standards, shall constitute the regulations for the certification of rape.

1. All certified rape being grown in Arkansas must be treated with Benomyl or Iprodione when approved, or other registered and approved chemical recognized to be equal to or greater than Benomyl or Iprodione for the effective control of seedborne Blackleg, according to label directions.

2. All certified rape being grown in Arkansas must be field inspected for the presence of Blackleg. If Blackleg infection is suspected, then it must be laboratory tested for confirmation of the virulent strain.

B. **Land Requirements:** Foundation and Registered seed of rape must be planted on land which did not produce rape during the previous four years. Certified (Blue Tag) seed of rape must be planted on land which did not produce rape during the previous three years.

C. **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 non-certified crop of the same variety as follows:

1. Producing Foundation or Registered rape seed: a) cross pollinated- 1,320 ft. b) self pollinated-660 ft.
2. Producing Certified (Blue Tag) Rapeseed: a) cross pollinated-330 ft. b) self pollinated-330 ft.

Required isolation between classes (grades) of the same variety is 10 ft.

D. Field Standards:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Blue Tag
Other Varieties	1 in 2000 plants	1 in 1000 plants	1 in 500 plants

E. Standards for Cleaned Seed:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Blue Tag
Pure Seed (minimum)	99%	99%	99%
Inert Matter (maximum)	1.00%	1.00%	1.00%
Weed Seeds of Brassica spp. & Raphanus raphanistrum	1 per lb.	3 per lb.	5 per lb.
Prohibited Noxious	None	None	None
Buckhorn plantain, Dock, & Wild Onion/Garlic	1 per lb.	3 per lb.	5 per lb.
Other Weeds	5 per lb.	10 per lb.	15 per lb.
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%	85%	85%
Moisture (maximum)	10%	10%	10%

* Shall not exceed 1 per pound for Foundation; 2 per pound for Registered; and 5 per pound for Certified (Blue Tag).

STANDARDS FOR THE CERTIFICATION OF RICE

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for the certification of rice.

B. **Land Requirements:** The crop to be certified must not be sown on land which has within the last two years produced a crop of another variety or an uncertified crop of the same variety.

C. **Field Standards:**

1. **Isolation:** In order to prevent mechanical mixtures in planting, harvesting, running of drain furrows, levees, etc., fields for certification shall be separated from non-certified rice fields and from certified rice fields of another variety by the following distances: if the nearby field is drill seeded the distance shall be 15 ft., if ground broadcast seeded the distance shall be 50 ft., and if aerial seeded the distance shall be 100 ft.

2. **Field Inspection Standards:**

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other Varieties*	None	1 per 5 sq. rds.	1 per sq. rd.
Curly Indigo, Coffee Bean, Itchgrass Field Bindweed, Balloonvine, Serrated Tussock	None	None	None
Red Rice	None	None	1 plant per acre
Disease (cannot be controlled with seed treatment)	None	None	None

*Other varieties shall not include variations which are characteristic of the variety.

Inspectors will, at the time the field inspection is made, report the amount of other noxious weeds present, give the general condition of the field, and note the presence of any disease which might seriously affect the quality of the seed.

D. **Standards for Cleaned Seed:**

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	98%	98%	98%
Other Varieties*	None	None	2 per lb.
Other Crop Seeds (maximum)	None	None	2 per lb.
All Noxious Weeds	None	None	None**
Total Weed Seed (maximum)	.03%	.03%	.08%
Inert (maximum)	2%	2%	2%
Germination (minimum)	80%	80%	80%
Moisture (maximum)	14%	14%	14%

* Other varieties shall not include variations which are characteristics of the variety.

** Four pounds shall be hulled from each lot to determine the noxious weed content, including red rice.

STANDARDS FOR THE CERTIFICATION OF SMALL GRAINS (Oats, Wheat, Rye and Barley)

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for certification of small grains.

B. **Land Requirements:** A small grain crop may only be planted on land on which any small grain planted in the previous two years was of another crop kind, or was planted with a class of certified seed of the same variety.

Point of clarification: Land requirements are also met if cultivated crops were grown on the land the previous two summers and the land winter fallowed.

C. Field Standards:

1. **Isolations:** Rye for certification shall be isolated from another variety or from non-certified rye of the same variety by at least one-fourth mile. Wheat, barley or oats for certification shall be isolated from other crops by 15 feet, and if the adjoining field to the one being certified has been sown broadcast, then the isolation required is 30 feet. No isolation would be required if the adjoining field is the same variety and is certified.

2. Field Inspection:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other Varieties-definite	None	.02% (1 in 5000)	.04% (1 in 2500)
Other Crop 1.	None	.01% (1 in 10,000)	.04% (1 in 2500)
Objectionable Noxious Weeds 2.	None	None	None
Diseased Plants (smut)	.02% (1 in 5000)	.05% (1 in 2000)	.1% (1 in 1000)

1. Other crops shall mean those crops that would be difficult to separate from the crop being certified by the usual cleaning methods.
2. Objectionable noxious weeds shall include field bindweed, serrated tussock, itchgrass, tropical soda apple, wild onion or wild garlic, balloonvine, and johnsongrass, except that johnsongrass will be permitted at the time of field inspection in wheat only.

D. Standards for Clean Seed:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum) 1.	98%	98%	98%
Other Varieties	None	1 per lb.	4 per lb.
Other Crop (maximum)	1 per lb.	2 per lb.	4 per lb.
All Noxious Weeds (In Wheat)	None	None	None
Objectionable Noxious Weeds 2.	None	None	None
Other Noxious Weeds (Oats, Rye, Barley)	1 per lb.	2 per lb.	4 per lb.
Inert Matter (maximum) 3.	2%	2%	2%
Moisture (maximum)	14%	14%	14%
Germination (minimum) 4.	85%	85%	85%

1. Minimum pure seed for rye shall be 96%.
2. Objectionable noxious weeds shall include field bindweed, wild onion or wild garlic, johnsongrass, nutgrass, bermudagrass, crotalaria, balloonvine, serrated tussock, itchgrass, and tropical soda apple.
3. The maximum inert for rye shall be 4%.
4. The minimum germination for rye shall be 70%.

STANDARDS FOR THE CERTIFICATION OF SORGHUM

A. The general seed certification standards are basic, and together with the following specific standards shall constitute the regulations for the certification of sorghum.

B. **Land Requirements:** The crop to be certified must not be planted on land which has within the last year produced a certified crop of another variety, or an uncertified crop of either the same or another variety.

C. Field Standards:

1. **Isolation:** Fields of sorghum for certification shall be isolated from other kinds of varieties and from fields of the same variety that do not meet the varietal purity standards for certification, as shown in the table below:

Class	Minimum Isolation
Foundation	60 rods
Registered	60 rods
Blue Tag Certified	40 rods 1.

1. (a) For Sudan grass the minimum isolation shall be 60 rods from any other variety of Sudan grass.

(b) The minimum isolation for sorghum from any Sudan grass shall be 60 rods.

2. Field Inspection:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other Varieties-definite	None	None	.005% (1 in 20,000)
Off-type or Doubtful Plants	None	.01% (1 in 10,000)	.02% (1 in 5,000)
Field Bindweed, Johnsongrass, Itchgrass, Tropical Soda Apple, Balloonvine, Serrated Tussock	None	None	None
Seedborne Disease (smut)	None	None	.01% (1 in 10,000)

D. Standards for Cleaned Seed:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	98%	98%	98%
Other Varieties (definite)	None	None	2 per lb.
Objectionable Noxious Weeds 1.	None	None	None
Other Noxious Weeds or other Crop Seed	2 per lb.	2 per lb.	3 per lb.
Total Weed Seed (maximum)	.1%	.1%	.1%
Inert Matter (maximum)	2%	2%	2%
Germination (minimum)	80%	80%	80%
Moisture (maximum)	13%	13%	13%

1. Objectionable noxious weeds shall include field bindweed, johnsongrass, wild onion or wild garlic, bermudagrass, nutgrass, crotalaria, balloonvine, serrated tussock, itchgrass, tropical soda apple.

STANDARDS FOR THE CERTIFICATION OF SOYBEANS

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for certification of soybeans.

B. **Land Requirements:** Soybeans shall not be grown on land where the previous crop was soybeans unless the preceding soybean crop was planted with certified seed of the same variety or unless the variety planted is of a contrasting pubescence or hilum color.

C. **Field Standards:**

1. **Isolation:** Soybeans for certification must be isolated from any other field not being certified of the same or another variety, or a certified field of another variety by at least 5 feet for Blue Tag grade and 15 feet for Foundation and Registered grades.

2. **Field Inspection:**

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other Varieties 1.	*.02% (1 in 5000)	*.03% (1 in 3600)	*.09% (3 in 3600)
Field Bindweed, Balloonvine, Serrated Tussock, Itchgrass	None	None	None

1. Other varieties shall include plants that are distinctly different from the variety being inspected.

Note: Only a small amount of johnsongrass in the field will be permitted.

*Allowances for certified Hutcheson and Caviness Soybeans is up to 1/200 other varieties for BlueTag grade, 1/500 for Registered grade and 1/1000 for Foundation grade. (For the Caviness variety, this allowance will expire in July 2004)

D. Standards for Cleaned Seed:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	98%	98%	98%
Other Varieties	*None	*1 in 1 lb.	*3 in 1 lb.
Other Crop (maximum)	None	1 in 3 lbs	1 in 2 lbs.
Corn or Sunflower Seed (maximum)	None	None	1 in 1 lb.
Noxious Weeds	None	None	None
Inert Matter (maximum)	2%	2%	2%
Germination (minimum)	80%	80%	80%
Moisture (maximum)	14%	14%	14%

1. Foundation Grade Soybean Seed grown on fields infested with Soybean Cyst Nematode and/or Cocklebur, Morning Glory and Moonflower shall be cleaned over spiral cleaners.

* Allowance for certified Hutcheson and Caviness Soybeans is up to 0.50% other varieties for BlueTag grade, 0.20% for Registered grade and 0.10% for foundation grade. (For the Caviness variety, this allowance will expire in July, 2004)

STANDARDS FOR THE CERTIFICATION OF VETCH

A. The general seed certification standards are basic, and together with the following specific standards, shall constitute the regulations for certification of vetch.

B. Land Requirements:

1. A crop of the same kind must not have been grown or planted on the land for 5, 3, and 2 years prior to stand establishment for producing the Foundation, Registered, and Certified seed classes, respectively.

2. The land must be free of volunteer plants of Vetch during the year immediately prior to establishment. No manure or other contaminating material shall be applied the year previous to seeding or during the establishment and productive life of the stand. Requirement is waived if the previous crop was of the same variety and of a Certified class equal or superior to that of the crop seeded.

C. Field Standards:

1. **Isolation:** All fields for certification must have 25 rods isolation distance from fields of another variety of the same species, or from fields of the same variety that do not meet the varietal purity requirements for certification. The isolation distance between classes of the same variety may be reduced to 10 feet, regardless of class, or size of field.

2. Field Inspection:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Other Varieties	.02% (1 in 5000)	.02% (1 in 5000)	.04% (1 in 2500)
Objectionable Noxious Weeds 1.	None	None	None

1. Objectionable noxious weeds shall include field bindweed, wild onion or wild garlic, balloonvine, serrated tussock, itchgrass, and tropical soda apple.

Note: Only a small amount of johnsongrass in the field will be permitted.

D. Standards for Cleaned Seed:

Factor	STANDARDS FOR EACH CLASS		
	Foundation	Registered	Certified Blue Tag
Pure Seed (minimum)	98%	98%	98%
Other Varieties or Other Crop (maximum)	1 in 2 lbs.	1 per lb.	2 per lb.
Objectionable Noxious Weeds 1.	None	None	None
Other noxious weeds	1 per lb.	1 per lb.	2 per lb.
Total Weeds (maximum)	0.1%	0.1%	0.1%
Inert Matter (maximum)	2%	2%	2%
Germination Including Hard Seed (minimum)	80%	80%	80%

1. Objectionable noxious weeds shall include field bindweed, wild onion or wild garlic, johnsongrass, nutgrass, bermudagrass, crotalaria, balloonvine, serrated tussock, itchgrass, and tropical soda apple.

STANDARDS FOR THE CERTIFICATION OF TURFGRASS

VEGETATIVELY PROPAGATED TURFGRASS

I. Application and Amplification of General Certification Standards

A. The General Seed Certification Standards are basic and together with the following specific standards, constitute the standards for certification of vegetatively propagated turfgrasses.

New applicants are required to be familiar with Arkansas Certification requirements. Turfgrass applications not received by May 1, with the exception of new producers, will not be accepted. Applicants wishing to certify a variety not currently in production in Arkansas will be required to submit documentation on the candidate variety to the State Plant Board a minimum 60 days prior to planting. That documentation will include: (1) a breeder's description, prepared by the person or organization responsible for developing the variety, (2) copies of any production and/or royalty agreement associated with securing the right to produce the variety.

B. The General Standards are modified as follows:

1. Foundation Turf - shall be the vegetative increase of breeder's turf, or in certain cases the increase of foundation turf.
2. * Registered Turf - shall be the vegetative increase of foundation turf.
3. Certified Turf - shall be the vegetative increase of registered turf or foundation turf.
4. Application blanks for certification of vegetatively propagated turfgrasses will be furnished by the Plant Board. A map showing the location of each kind and variety must accompany the application for field inspection and certification. Any person applying for certification on a variety planted from a source other than his own production, must submit with his application a copy of the invoice and a tag from one of the containers, which will establish the quantity and grade of the planting stocks. Application should be made by March 1 of each year for current crop. Fees are listed in Section H of these regulations.
5. The field of each kind and variety must be identified at all times by an appropriate sign and field number and map with field number noted.
6. Life of Stand: The life of the stand will continue for all classes of vegetatively propagated turf grasses as long as the varietal and mechanical purity for the class is maintained.

*A grower of registered turf may increase the original foundation class planting to no more than 10 acres if the increase is continuous within the original field and an ASPB inspector is present at harvest.

C. Responsibilities of the Grower:
The Grower is responsible for:

1. Making certain that all grass represented on the certificate was inspected and accepted for certification.
2. Making certain the certificate contains all the required information and is correct (i.e., kind, variety, quantity, billing invoice, field #, harvest date, and grower information).

3. Making sure that grass represented by the certificate continues to meet the appropriate Turfgrass Standards after the inspection.
4. Making sure the certificate accompanies each shipment of grass
5. Mailing the appropriate certificate copy to the Plant Board Certification office weekly.
6. Preventing non-certified grass from being sold as certified grass.
7. Making certain that those records required in the Turfgrass Standards are maintained.

INSTRUCTIONS AND PROCEDURES

1. The initial planting for production of foundation vegetatively propagated turfgrasses will be in rows not less than 12" apart.
2. All planting, mowing, harvesting and loading equipment must be thoroughly cleaned prior to entering the field.
3. An official numbered certificate will accompany each shipment of certified sprigs, sod or plugs.
4. A complete record on the amount of certified turf sales will be maintained and made available to the official certifying agency. The record will include (a) class of certified turf sold (Foundation, Registered or Certified), (b) kind and variety, (c) field number, (d) date of harvest, (e) amount of turf shipped (square feet, cubic feet, bushels, etc.)

II. Land Requirements - (Rules covering land prior to planting)

A. A field to be eligible for the production of registered or certified turf must have been inspected and found to be free of all perennial grasses, objectionable and noxious weeds. A second inspection will be made approximately four to six weeks after planting.

B. Size of Field: Maximum:

- a. Foundation: ten acres
- b. Registered: ten acres
- c. Certified: no limit

C. All registered class grass will be produced on fumigated land or inspected for an entire growing season and meet section II, A, requirements.

D. Land fumigated must lay idle for a period of not less than three weeks after fumigation (or not less than six weeks when converting to like species) and be inspected for compliance with Section II, A. Land must receive adequate moisture and soil temperature must be adequate to allow any live plants not eradicated by fumigation to emerge.

III. Field Inspections

A. Handling the Crop after Planting and Prior to Inspection:

A field must be rogued and/or sprayed with recommended herbicides during the growing season to remove (1) other varieties, (2) other perennial grasses, (3) most common weeds, (4) objectionable and noxious weeds.

Note: When spraying, the herbicide will be applied to the area containing the mixture plus

an 18" border surrounding the outer limits of the visible area of mixture. Spraying will continue until the mixture is eradicated.

B. Time and number of inspections:

1. Foundation, Registered and Certified (three inspections required):

Spring (April or May)

Summer (June or July)

Fall (September or October)

2. Every two years an intensive field inspection will be made of the Registered Class.

a. A representative area of the field (10%) will not be harvested until seed heads appear.

C. Production fields that fail to meet the published varietal purity standards for the class applied for within one growing year will be permanently downgraded to the next lowest class if the field meets the standard of the next lowest class, or removed from certification. A field removed from certification may be re-entered into certification if it meets the requirements in section II, Land Requirements (Rules Covering land prior to planting).

IV. Field Standards

A. General

1. Restrictions on number of varieties per field:

Only one variety of a kind may be grown for certified turf on a field except with prior approval of the certifying agency.

2. Unit of Certification:

A field or portion of a field may be certified.

3. Isolation requirements:

Plantings of vegetatively propagated turf grasses must be isolated from any other variety and other perennial grasses and other certification classes by an artificial barrier and/or strip at least ten (10) feet wide to prevent mixing during the growing season and harvesting operation.

B. Specific Requirements:

Factor	Maximum permitted in each class		
	Foundation***	Registered***	Certified***
* Other Varieties	None	None	1 plant/acre***
Other Crops	None	None	1 plant/acre**
Noxious / Objectionable Weeds	None	None	None
Other Living Plants (Max per acre)	100	200	400

* Other Varieties shall consist of all other varieties of the kind being produced.

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

*** Other live varieties, other live crops and live noxious weeds found in excess of standards during field inspection must be eradicated. **Reinspection required and to be made not less than three weeks after rejection, cost of reinspection to be paid by producer.**

**** Those live plants found by an inspector must be eradicated by grower.

V. Turf Standards

*Noxious Weeds.....None

**Objectionable Weeds.....None

*See General Seed Certification Standards for list of Noxious Weeds

** Objectionable Weeds: Perennial sedges other than nutsedge (grass) and Dichondra spp.