General and Specific Crop Standards

Standards for the following crop kinds not presented in this handbook are available from the ACIA office

Asparagus hybrid
Australian saltbush
Barley hybrid
Flax
Guar
Guayule
Pearl millet hybrid
Peanut
Sesame
Soybean
Watermelon

Alfalfa

Special Requirements and Standards

Application Due Date

Field inspection applications are due in the ACIA office by April 1 for spring seed crops and by October 1 for fall seed crops.

Region of Adaptation

The region of adaptation for seed production of a particular alfalfa variety shall be recommended by the originating plant breeder and shall conform to the requirements of the National Alfalfa Variety Review Board.

Seed Classes

Only the Foundation and Certified classes of alfalfa seed are recognized in Arizona.

Age of Stand Limitation

The originating plant breeder of a variety or a designee shall specify any limitation on the number of years that a given field may produce the Foundation or Certified classes of seed. Certified seed production outside a variety's region of adaptation shall not exceed four years if not otherwise specified.

Planting in Rows

Foundation class seed production fields shall be planted in rows. It is recommended that Certified class fields also be planted in rows for ease in controlling weeds and other crop kinds.

General Field Standards

Land History

Land planted for Foundation class seed production shall not have grown any variety of alfalfa during the previous four (4) years.

Land planted for Certified class seed production shall not have grown any variety of alfalfa during the previous two (2) years.

A field must have been free of volunteer alfalfa plants during the year prior to establishment of any alfalfa crop to be certified.

No manure or other contaminating amendments shall be applied not shall sheep be allowed to graze during the year previous to seeding or during the established and productive life of the stand.

Field Inspection

At least one field inspection shall be conducted during the full bloom or pollination stage.

Isolation

A field producing *Foundation* class seed shall be a minimum of 900 feet distant from any other variety of alfalfa or fields of the same variety that do not meet varietal purity requirements for certification.

The standard isolation distance requirement is 165 feet from another variety for a field producing *Certified* class seed. Modification of the isolation requirement for the Certified class is based on the size of the field to be certified and the percentage of the field's area that is located within 165 feet of another variety of alfalfa. If ten percent (10%) or less of the acreage of the field to be certified falls within the 165-foot "isolation zone", the only isolation required shall be a ten-foot separation. If more than ten percent (10%) of the field to be certified is within the zone, that acreage in excess of 10% that is located along the common border between the fields shall be clearly identified and shall not be harvested as Certified seed. *The area of a certified field that falls within the isolation zone is determined by multiplying the length of the common border between the fields times the average width of the portion of the certified field that is less than 165 feet from the offending field.*

Isolation between fields producing Foundation and Certified seed of the same variety shall be a minimum of ten feet in all instances.

Specific Field Standards

The maximum permitted frequencies of other alfalfa varieties and off-type plants that can be differentiated from the variety being inspected shall be:

Foundation class production – 1:1,000
Certified class production – 1:200

The maximum numbers of sweet clover plants permitted are "None" in a Foundation field and 10 per acre in a Certified field.

Seed Standards for Alfalfa

Seed Factor Standard - Percentage (%)	Foundation	Certified
Pure seed (Minimum)	99.50	99.50
Inert matter (Maximum)	0.50	0.50
Noxious weeds	None	None
Other weed seeds (Maximum)*	0.10	0.10
Other varieties and off-types (Maximum)	0.10	0.50
Other crop kinds (Maximum)	0.10	0.10
Germination and hard seed (Minimum)	85	85

* *Melilotus* spp. - None allowed in Foundation class; Nine (9) per pound allowed in Certified class.

Bean, Pea and Cowpea

(Including garden bean and chickpea)

Special Requirements and Standards

Application Due Date

Field inspection applications are due in the ACIA office within 45 days of planting a crop.

Irrigation System Limitation

Field beans (kidney, pinto, navy, lima, etc.) intended for certification shall not be grown under any form of sprinkler irrigation.

General Field Standards

Land History

Land planted for the production of any certified seed class of beans, peas and cowpeas shall not have grown the same kind during the previous year unless such a crop was planted with certified seed of the same variety. An intervening irrigated crop of another kind is sufficient to meet this requirement.

For field beans, fields in which bacterial blight of beans has been identified shall require two years of non-bean cropping to regain eligibility to produce certified seed.

Unit of Certification

A portion of a field may be accepted for certification if the non-eligible portion does not affect the genetic purity of the certified portion.

Isolation

Fields shall be separated from any other variety or inseparable other kind by a distance adequate to prevent mechanical mixture. Note: *lima beans* require at least 30 feet isolation from other fields of the same kind. Contact ACIA for specific requirements.

Fields producing any type of beans are not eligible for certification if they are adjacent to fields known to be contaminated with bacterial blight.

Field Inspection

At least one field inspection shall be conducted when varietal mixtures and disease symptoms can be determined. This inspection may occur from full-bloom stage to pod maturation, depending on the type of crop.

Specific Field Standards for Bean, Pea and Cowpea

Field Factor - Maximum Frequency of Heads or Plants Allowed	Foundation	Registered	Certified
Other varieties and off-types	1:10,000	1;5,000	1:1,000
Other crop kinds (inseparable)	None	1:5,000	1:1,000
Bacterial blight, bacterial wilt and anthracnose*	None	None	None
Bean common mosaic virus*	None	1:200	1:200

* No disease standard for cowpea.

Seed Standards for Bean, Pea and Cowpea

Seed Factor Standard - Percentage (%) by weight	Foundation	Registered	Certified
Pure seed (Minimum)	95.00	98.00	98.00
Inert matter, including non-seed & splits (Maximum)	No standard	2.00	2.00
Badly discolored seed (Maximum)	0.50	0.50	0.50
Insect-damaged seed (Maximum)	0.50	0.50	0.50
Noxious weed seeds	None	None	None
Other weed seeds	None	None	None
Other varieties and off-types (Maximum)	0.01	0.05	0.10
Other crop kinds (Maximum)	None	0.05	0.10
Germination (Minimum)	No standard	85	85

Canola and Rapeseed

(Varieties and Hybrids)

Special Requirements and Standards

Application Due Date

Field inspection applications are due in the ACIA office 60 days after a crop has been planted.

Seed Classes

The Foundation Seed class is recognized for certification of varieties and of parent lines used in hybrid production.

The Certified Seed class is recognized for certification of varieties and of commercial hybrids.

Mode of Pollination

These standards apply to the certification of both open and self pollinated canola and rapeseed varieties and hybrid varieties as specified.

Unit of Certification

The entire hybrid crossing field of an applicant must be eligible for certified seed production.

Seed Requirements

Breeder or Foundation seed must be used to establish all fields of hybrid production. The direction of the cross must remain the same unless data are provided indicating that no substantive differences result from reversal of the parentage.

Laboratory Verification of Seed Chemical Constituents

Applicants for final certification may be required to furnish evidence that seed harvested from approved fields meets the varietal description for content of erucic acid and glucosinolate or specialty oils.

General Field Standards

Land History for Variety and Hybrid Canola

Land planted for the production of *Foundation* Class seed shall not have grown canola or rapeseed, mustard or oilseed radish during the previous five (5) years.

Land planted for the production of *Registered and Certified* Class seed shall not have grown canola or rapeseed, mustard or oilseed radish during the previous three (3) years.

Land used for all classes of certified seed production must be free from volunteer contaminating plants.

Field Inspection

Variety production – at least one field inspection shall be conducted after the crop begins to flower.

Hybrid production – fields producing foundation or certified seed must be inspected when the crop is in the early flowering stage of the female parent. Additional inspections may be warranted.

Isolation

A field producing Certified seed shall be isolated from fields producing any other variety of canola or rapeseed or from fields producing a non-certified crop of the same variety as follows:

Foundation class production of varieties –
660 feet distant if the variety being certified is self-pollinated.
1320 feet distant if the variety being certified is cross-pollinated.

Certified class production of varieties –
660 feet distant for both self- and cross-pollinated varieties.

Foundation and *Certified* class production of commercial hybrids –
2,640 feet distant to any other rapeseed or canola variety.

Fields producing different classes of the same variety are required to be ten (10) feet apart if self-pollinated and 50 feet apart if cross-pollinated

Fields must be free of prohibited noxious weeds and restricted noxious weeds that are not separable during conditioning. All roadways, ditch banks and other areas within the specified isolation zones must be free of volunteer canola, rapeseed and species of wild or tame mustards that will cross with the seed crop being certified.

Specific Field Standards

The maximum permitted frequencies of off-type plants, plants of another variety and plants or weeds of other description that will cross with the variety being certified shall be:

Foundation class production of varieties – 1:5,000

Certified class production of varieties – 1:2,000
Foundation and *Certified* class production for hybrids –
Off-types and other varieties – 1.5:10,000
Other Brassica crop species – 1:10,000

Seed Standards for Canola and Rapeseed

Seed Factor Standard - Percentage (%) by weight	Foundation	Certified
Pure seed (Minimum)	99.00	99.00
Inert matter (Maximum)	1.00	1.00
Noxious weed seed	None	None
Other weed seeds (Maximum)	0.02	0.02
Other varieties and Off-types (Maximum)	0.05	0.10
Other crop kinds (Maximum	0.01	0.05
Germination (Minimum)	No standard	85
Seed analysis *	Per description	Per description

* Content of erucic acid and glucosinolates must comply with any tolerance established by the breeder of each variety.

Hybridity

Percent hybrid seed in the production shall be at least 80% and shall be determined by a method of acceptable accuracy which can be reproduced by an official certification agency. The applicant for final certification must submit a declaration of the minimum percent hybridity and the method of determining it prior to obtaining final certification.

Cotton

Special Requirements and Standards

Application Due Date

Field inspection applications are due in the ACIA office by July 1.

Limitation of Generations

The Certified class of seed shall be limited to one generation of increase from Registered class seed or from eligible non-commercial F^1 hybrid seed.

Producing and Processing Colored Lint Cotton

The Arizona Department of Agriculture administers legislation and rules pertaining to the production and processing of colored lint cotton. This information is available on the department's web site at *agriculture.state.az.us* on the World Wide Web or by contacting the ACIA office.

General Field Standards

Land History

Land planted for production of any class of certified seed must be free of volunteer cotton.

Land planted for *Foundation* class seed production shall not have grown cotton during the previous year, unless such cotton was the same variety as the crop to be certified, and the land shall have grown an irrigated crop since cotton of a differing variety was last grown.

Land planted for *Registered* and *Certified* class seed production shall not have grown cotton differing by lint color, by species or by other easily observable morphological characteristics during the previous year.

Field Inspection

At least one official inspection shall be conducted, preferably when the earliest bolls reach maturity. Additional official inspections may be necessary under certain circumstances.

Unit of Certification

A portion of a field may be accepted for certification if the non-eligible portion does not affect the genetic purity of the certified portion.

Isolation

Field Isolation Factor - Distance in Feet	Foundation	Registered	Certified
Between similar varieties of the same species	25	25	25
Between varieties of one specie which are dissimilar in vegetative characteristics* other than normal vs. okra-leaf type	100	100	100
Between different species (upland vs. Pima) and between varieties differing substantially in leaf type (normal vs. any degree of okra-leaf trait)	**1,320	1,320	660
Between varieties differing in lint color (all certified classes)	5,280 feet with adequate*** border rows or field buffering between an offending field and the field being certified. Three (3) miles with no border rows or buffer fields.		

* Vegetative characteristics are those not associated with lint color.

** Isolation shall include at least 50 feet of border cotton on the side facing an offending field that is within one-quarter to one-half mile of the field being certified.

*** Buffer adequacy shall be determined by the inspector. Normally, at least 100 fee of border or an intervening field shall be considered adequate buffering within a distance of one to three miles of an offending field.

Specific Field Standards

The maximum permitted frequencies of off-type plants and plants of another variety having the same lint color are (total of both):

Foundation and *Registered* class production –
1:45,000 for a different species
1:10,000 for the same species

Certified class production –
1:9,000 for a different species
1:5,000 for the same species

Fields containing plants of differing lint color during the pollinating season are not eligible to produce any class of certified seed even if off-color plants are removed before harvest, because of the outcrossing that may have occurred.

Inspectors may disapprove a field or a portion of a field due to presence of excessive cocklebur or may require the removal of cocklebur plants before harvest as a condition of approval for certification.

Harvesting and Handling

All equipment used in picking and handling cotton shall be cleaned to the satisfaction of a representative of ACIA. This requirement applies particularly to trailers having wire mesh sides.

Trailers and modules containing seed cotton from certified production fields shall be clearly labeled as to variety, class and field of origin before being transported to the gin.

Gins shall be cleaned to the satisfaction of a representative of ACIA prior to ginning and saving any class of certified seed. *Gins from which certified seed is to be saved shall have been free of cotton of differing lint color anywhere on their premises for one complete ginning season.*

Delinting plants shall maintain clearly identified storage facilities to prevent the contamination of eligible fuzzy seed by non-eligible fuzzy seed of the same or different varieties. *Delinting plants which intend to produce certified cotton seed shall have been free of seed of differing lint color for one complete delinting season and shall have no history of storing fuzzy seed of differing lint color anywhere on their premises.* Fuzzy seed of differing lint color that is delinted must be discharged from trucks directly into the delinting line and packaged immediately after conditioning.

Seed Standards for Cotton

Seed Factor Standard - Percentage (%) by weight	Foundation	Registered	Certified
Pure seed (Minimum)	99.00	99.00	99.00
Inert matter, including non-seed & splits (Maximum)	1.00	1.00	1.00
Noxious weed seeds	None	None	None
Other weed seeds	None	None	None
Other varieties differing only in vegetative characteristics (Maximum)	0.01	0.05	0.08
Other crop kinds (Maximum)	None	0.01	0.04
Varieties differing in lint color	None	None	None
Germination (Minimum)	80	80	80

Grasses

Special Requirements and Standards

Application Due Dates

Field inspection applications for kinds other than bermudagrass are due in the ACIA office 15 days before the particular crop begins to head out. Bermudagrass applications are due on May 1 for a spring crop and October 1 for a fall crop. An inspection application must be submitted for each seed crop that is to be considered for certification.

Source of Planting Stock

All classes of certified seed may be produced from vegetatively propagated planting stock in accordance with procedures that may be specified by the plant breeder or originating institution of a particular variety.

Limitation of Generations and Stands

Only the Foundation and Certified classes of bermudagrass are recognized. The number of years that grass fields may be eligible for producing any class of certified seed may be limited by the owner of the variety.

General Field Standards

Land History

Land planted for *Foundation* class seed production shall not have grown any other variety of the same species during the previous five years and shall have grown cultivated crops during three of those years.

Land planted for *Registered* and *Certified* class seed production shall not have grown any other variety of the same species during the previous three years and shall have grown cultivated crops during two of those years, except that the cultivation requirement is waived if the crop grown was of the same variety and it passed field inspection for certification.

Certified seed production fields shall be free of volunteer plants of the same species prior to planting. The certifying agency may, at its discretion, require a pre-planting inspection in an undisturbed state for any field to be eligible to produce certified seed.

Field Inspection

One or more inspections of each seed crop intended for certification shall be conducted after the crop is fully headed.

Unit of Certification

The unit of certification shall be a seed field or block surrounded by at least five feet of ground that is uncropped, mowed or of another crop kind.

Isolation

Fields producing any class of certified seed must be set apart from another field containing different strains or varieties of the same species having overlapping blooming periods as indicated in the following table.

Isolation Standards for Grasses

Field Isolation Factor - Distance in Feet	Foundation	Registered	Certified
Bermudagrass	900	NA	*165
Between varieties of cross-pollinated species other than bermudagrass	1,320	660	*165
Between varieties that are 80% or more apomictic or are highly self-sterile	165	165	16.5

* For certified class production of cross- or open-pollinated varieties and species only, the isolation distance is waived when 10% or less of the field being inspected falls within the isolation zone created by the specific isolation requirement against an offending field (see alfalfa isolation distance standard for a more precise explanation of "isolation zone.") this waiver does not apply to the production of hybrid varieties.

Specific Field Standards

Bermudagrass

The maximum permitted other varieties and/or off-types plants shall be "none" for Foundation class seed production and 0.3% (by area) shedding pollen or bearing seed heads at the time of final inspection for Certified class seed production.

All Other Grasses

The maximum permitted frequency of other species, other varieties of the same species and/or off-type plants shall be:

Foundation class production – None
Registered class production – 1:100
Certified class production – 1:50

Seed Standards for Bermudagrass

Seed Factor Standard - Percentage (%) by weight	Foundation	Certified
Pure seed (Minimum)	97.00	97.00
Inert matter (Maximum)	3.00	3.00
Noxious weeds	None	None
Other weed seeds (Maximum)*	0.01	0.20
Other varieties and/or crop kinds (Maximum)	0.01	0.25
Germination (Minimum)	80	80

Seed Standards for Most Cultivated Grasses (Except Bermudagrass)

Seed Factor Standard - Percentage (%) by weight	Foundation	Registered	Certified
Pure seed (Minimum)	98.00	98.00	98.00
Inert matter (Maximum)	2.00	2.00	2.00
Noxious weed seeds	None	None	None
Other weed seeds	0.01	0.01	*0.01
Other grass varieties	0.10	0.10	0.25
Other crop kinds: non-grass (Maximum)	0.10	0.30	0.50
Germination (Minimum)	85	85	85

* Specifically: Sprangletop, lovegrass and sand dropseed.

Seed Standards for Range and Conservation Grasses

AOSCA and ACIA maintain separate seed standards for a number of native and introduced range and conservation –use grasses including, lovegrasses, Indian ricegrass and chaffy kinds certified by Pure Live Seed Index (Arizona cottontop, bluestems, buffalograss, gramagrasses and Indiangrass). Contact the ACIA office for more information.

Okra

General Field Standards

Application Due Date

Applications for field inspection are due in the ACIA office by July 1.

Land History

Land planted for production of all certified classes of okra shall not have grown okra during the previous year unless a previous okra crop was grown from a class of certified seed of the same variety.

Unit of Certification

A portion of a field may be accepted for certification if the non-eligible portion does not affect the genetic purity of the certified portion.

Field Inspection

At least one field inspection shall be conducted at a growth stage when varietal differences are most apparent. This stage will normally be when some pods are maturing.

Isolation

Fields producing certified seed shall have the following minimum isolation distances from fields of another okra variety or from fields of the same variety not meeting the purity requirements for certification:

Foundation class and *Registered* class production – 1,320 feet
Certified class production – 825 feet

Specific Field Standards

The maximum permitted frequency of other varieties and/or off-types shall be:

Foundation class production – None
Registered class production –
Definite other varieties or off-types – 1:10,000
Doubtful other varieties or off-types – 1:2,000

Certified class production –
Definite other varieties or off-types – 1:5,000
Doubtful other varieties or off-types – 1:2,000

The same maximum permitted frequencies apply for the presence of inseparable other crops.

Seed Standards for Okra

Seed Factor Standard - Percentage (%) by weight	Foundation	Registered	Certified
Pure seed (Minimum)	98.00	98.00	98.00
Inert matter (Maximum)	2.00	2.00	2.00

Noxious weed seeds	None	None	None
Other weed seeds (Maximum)	0.05	0.05	0.10
Other varieties (Maximum)	None	0.05	0.10
Other crop kinds (Maximum)	None	0.01	0.02
Germination (Minimum)	70	85	85

Safflower

Special Requirements and Standards

Application Due Date

Field inspection applications are due in the ACIA office by April 15.

Planting in Rows

Fields producing Foundation class seed shall be planted in rows to aid in roguing and field inspection. It is strongly suggested that fields producing other seed classes contain regularly spaced open strips for ease of roguing.

Roguing of Off-types

Off-type plants present in excess of the maximum permitted frequency shall be rogued before the field reaches the full bloom stage. Fields reaching full bloom that contain off-type plants in excess of the maximum permitted frequency for a seed production class will not be eligible for certification.

General Field Standards

Land History

Land planted for certified safflower production shall not have grown safflower during the previous two years unless it was planted with certified seed of the variety for which certification is requested and shall have grown at least one cultivated crop during the period in which no safflower was produced.

Unit of Certification

A portion of a field may be accepted for certification if the non-eligible portion does not affect the genetic purity of the certified portion.

Field Inspection

At least one field inspection shall be conducted at a time when 50% or more of the plants are flowering and preferably when 100% are flowering.

Isolation

Fields producing any class of certified safflower seed shall be at least 1,320 feet distant from any other variety of safflower and from a non-certified crop of the same variety.

Seed Standards for Safflower

Seed Factor Standard - Percentage (%) by weight	Foundation	Registered	Certified
Pure seed (Minimum)	98.00	98.00	98.00
Inert matter (Maximum)	2.00	2.00	2.00
Noxious weed seeds	None	None	None
Other weed seeds (Maximum)	0.01	0.02	0.05
Other varieties, off-types and crop kinds - total (Maximum)	0.01	0.02	0.05
Germination (Minimum)	70	85	85
Sclerotia (Maximum)	One (1) per pound		

Small Grains

(Barley, Durum, Oat, Rye, Triticale, Wheat)

Special Requirements and Standards

Application Due Dates

Applications for field inspection are due in the ACIA office as follows:

Foundation and Registered class production: the later of February 1 or 30 days after planting.

Certified class production: April 1

[NOTE: *ACIA applications for small grain inspection that are also subject to phytosanitary field inspections by ACIA personnel under an agreement with the Arizona Department of Agriculture are due by the later of February 15 or 15 days after planting.]*

Seed Treatment

Seed of the Foundation and Registered classes shall be treated with approved materials for the control of seed-borne diseases.

General Field Standards

Land History

Land planted for all classes of certified seed production shall not have grown the same kind of small grain for its previous crop unless that previous crop was planted with a class of certified seed of the same variety for which certification is requested.

Field Inspection

Foundation class: Shall be inspected at least three times beginning at heading. Foundation fields may be rejected for presence of offending plants (other varieties, off-types or inseparable other crops) in excess of the field standard at any inspection. Inspectors will notify applicants promptly of fields rejected for this reason. These fields may regain eligibility at the discretion of the inspector if offending plants of transient visibility are rogued to standards in a timely manner.

Registered class: Shall be inspected at least two times beginning shortly after heading under the same conditions of acceptance as for Foundation class fields.

Certified class: At least one field inspection shall be conducted at a growth stage when varietal purity can be adequately determined. The inspection will normally be conducted during the latter stages of head filling in small grains. Fields rejected for the presence of offending plants in excess of field standards may regain eligibility at the discretion of the inspector if they are rogued to standards in a timely manner.

Unit of Certification

A portion of a field may be accepted for certification if the non-eligible portion does not affect the genetic purity of the certified portion.

Isolation

For *hulled barley, durum, oat, triticale and wheat (adopted January 2005):*

1. A field producing any class of certified seed shall be separated from fields producing other varieties of the same kind by a minimum distance of ten (10) feet, and;
2. A field producing any class of certified seed of a specific crop kind shall be separated from fields producing inseparable crop kinds or from fields of the same variety planted with non-certified seed by a distance adequate to prevent mechanical mixing.

For *hulless waxy barley,* fields producing certified seed shall be separated from hulled barley production fields as follows:

Foundation class production – 1,320 feet
Registered and *Certified* class production – 660 feet

[Note: This isolation requirement shall be waived if 200 feet of non-certifiable buffer is established facing an offending hulled field.]

For *rye*, fields of all classes of certified seed production shall be at least 660 feet distant from fields of any other variety and non-certifiable fields of the same variety and the same chromosome number. Isolation between diploid and tetraploid ryes shall be at least 15 feet.

Specific Field Standards for Small Grains

Field Factor Standard - Maximum Frequency of Heads or Plants Allowed	Foundation	Registered	Certified
Other varieties and off-types of same kind	1:25,000	1:5,000	1:3,000
Inseparable other crop kinds including small grains	1:25,000	1:4,000	1:2,500
Inseparable objectionable weeds*	None	None	None
Chemically controllable seed-borne diseases	1:10,000	1:5,000	1;2,500

* Specifically, wild oat *(Avena fatua* L.)

Seed Standards for Small Grains

Seed Factor Standard - Percentage (%) by Weight	Foundation	Registered	Certified

Pure seed (Minimum)	98.00	99.00	99.00
Inert matter (Maximum)	2.00	1.00	1.00
Noxious weed seeds*	None	None	None
Other weed seeds (Maximum)	0.01	0.01	0.02
Other varieties & off-types - same kind (Maximum)	0.01	0.02	0.04
Other crop kinds (Maximum)	0.01	0.02	0.02
Germination - Durum (Minimum)	85	85	85
Germination - All other kinds (Minimum)	90	90	90

* Includes wild oat and all other prohibited and restricted weed species listed as noxious in Arizona rules.

Sorghum Hybrids

(Including Inbred Lines)

Special Requirements and Standards

Application Due Date

Field inspection applications are due in the ACIA office at least 30 days before head emergence.

Classes Recognized

Foundation inbred parent lines and hybrids and Certified commercial hybrids are recognized in these standards. Commercial hybrids are planted for uses other than seed production and must represent a specific combination of parent lines.

Seedstock Eligibility

Certified commercial hybrids shall be produced from seedstocks approved as eligible by ACIA.

General Field Standards

Land History

Land planted for certified seed production shall not have grown any sorghum, sudangrass or broomcorn during the previous year.

Field Inspection

Certified seed fields of foundation seed stocks and commercial hybrids shall be inspected at least three times. The entire field shall be inspected twice, once during the early bloom stage and once during the full bloom stage, and the seed parent shall be inspected once before harvest but after the seed begins to assume mature color.

Unit of Certification

The entire field of inbred, foundation hybrid or commercial hybrid production must be eligible for certification and shall be inspected.

Isolation

Isolation is important in sorghum seed production because natural crossing may occur among and between all varieties and types and with Johnsongrass.

1. The minimum isolation distance from sudangrass and from grass sorghum and broomcorn with the same chromosome number shall be **1,320 feet** for both *Foundation* and *Certified* seed production.

2. *Foundation Seed Parent (inbred and hybrid) Fields:* Shall be at least **990 feet** distant from any other sorghum variety pollen source or from fields of the same variety that do not meet certification purity requirements.

3. *Commercial Hybrid Seed Fields:* The seed parent shall be at least **660 feet** distant from any other sorghum variety if the contaminating source does not genetically differ in height from the pollinator parent or from sorghum types having a different chromosome number. If the contaminating source does (genetically) differ in height and has the same chromosome number, the distance shall be **990 feet**.

Specific Field Inspection Standards

Pollen Shedding by the Seed Parent

A seed field shall be ineligible for certification if more than the following incidence of female seed parents heads are found to be fertile at any one inspection:

Foundation parent – 1:3,000
Commercial hybrid parent – 1:2,000

Roguing

The presence of flowering Johnsongrass within a seed field or within the required isolation area shall be cause for rejecting a field for certification purposes.

Maximum frequency of heads or plants allowed for the indicated factor

Factor	Foundation seed at bloom	Foundation seed at maturity	Commercial hybrid field (Certified seed)*
Other varieties and off-types:			
Definite	1:50,000	None	1:20,000
Questionable	1:20,000	1:20,000	1:2,000
Head smut	None	None	1 head per acre
Kernel smut	None	None	1:2,500

* Note: Tolerances apply to both pollinator and seed parent.

Grow-outs

The results of a pre-certification grow-out and inspection for genetic purity shall be furnished upon request by ACIA. ACIA retains the right to approve the source of grow-out results.

Sorghum and Sudangrass

(Open Pollinated Varieties)

Special Requirements and Standards

Application Due Date

Field inspection applications are due in the ACIA office by May 1.

Mode of Pollination

These standards are applicable only to open-pollinated varieties of sorghum and sudangrass.

General Field Standards

Land History

Land planted for certified seed production of sorghum or sudangrass shall not have grown sorghum, sudangrass or broomcorn during the previous year unless a previous crop planted with certified seed of the same kind and variety for which certification is requested.

Field Inspection

Sorghum fields producing all classes of certified seed shall be inspected twice: the first inspection during the bloom stage and the second inspection as the seed assumes mature color.

Sudangrass fields producing all classes of certified seed shall be inspected at least once, generally during the full bloom stage.

Unit of Certification

A portion of a field may be accepted for certification if the non-eligible portion does not affect the genetic purity of the certified portion.

Isolation

Isolation of sorghum and sudangrass fields is important because natural crossing may occur among and between all varieties and with Johnsongrass.

Sorghum fields producing the certified classes shall be isolated from any other variety of sorghum, from fields of the same variety that do not meet field standards for the class being inspected and from Johnsongrass as follows:

Foundation and *Registered* class production fields – 990 feet
Certified class production fields – 660 feet

However, fields producing all certified classes shall be at least 1,320 feet distant from any sudangrass.

Sudangrass fields producing the certified classes shall be isolated from any other variety of sudangrass, from fields of the same variety that do not meet field standards for the class being inspected and from Johnsongrass as follows:

Foundation and *Registered* fields – 990 feet
Certified fields – 660 feet

However, fields producing all certified classes shall be at least 990 feet distant from any sorghum.

Specific Field Standards for Sudangrass and Sorghum Varieties

Field Factor Standard - Maximum Frequency of Heads or Plants Allowed	Foundation	Registered	Certified

Other varieties and off-types (definite)	1:50,000	1:35,000	1:20,000
Other varieties and off-types (doubtful)	1:20,000	1:10,000	1:1,000
Head smut	One (1) head in 10,000		
Kernel smut	One (1) head in 2,500		

Seed Standards for Sudangrass and Sorghum Varieties

Seed Factor Standard - Percentage (%) by Weight	Foundation	Registered	Certified
Pure seed (Minimum)	98.00	98.00	98.00
Inert matter (Maximum)*	2.00	2.00	2.00
Noxious weed seeds*	None	None	None
Other weed seeds (Maximum)	0.01	0.05	0.05
Other varieties & off-types (Maximum)	0.01	0.01	0.01
Other crop kinds (Maximum)	0.01	0.03	0.05
Germination (Minimum)	80	80	80

* Inert matter shall not include more than 0.5% of material other than seed fragments of the variety.

Vegetatively Propagated Turfgrass

Special Requirements and Standards

Application Due Date

An original field inspection application shall be submitted within ten days of planting any field that is intended to produce certified sod or springs. Applications for subsequent growing seasons are due on March 15. Late submission of applications may be cause for their refusal or assessment of a late fee.

Source of Propagating Material

Verification of the source and eligibility of planting material used to establish a crop shall be either an invoice detailing the variety, certified class, lot number and quantity purchased or a Certified Sod certificate containing the same information. Growers using material from their own production shall submit a signed statement containing the relevant information.

Certification of Over-seeded Areas

Production from areas with a current seasonal over-seeding of another kind, the seed of which met certified seed standards, may be certified providing the over seeded area is eligible for certification based on an inspection conducted within 45 days preceding the date of over-seeding. Such over-seeded areas that are not sold as certified over-seeded production shall be inspected and approved for certification after the over-seeding disappears and before sale as certified production. Remnants over-seeded plants shall be removed by rouging or application of approved herbicides before an area will be eligible for certification as pure turf (not containing over-seeding.)

General Field Standards

Land History

Land planted for the production of any class of certified vegetative turf must be free of all other annual and/or perennial grasses.

Length of Stand

There shall be no limit on the length of time that a field shall be eligible for production of any class of sod unless the owner or developer stipulates a maximum period of eligibility.

Unit of Certification

An applicant's entire production surface of all varieties or species under certification shall be subject to inspection as a unit. Partial fields may be approved or disapproved at the discretion of the inspector.

Roguing

Fields for certification shall be rogued during the growing season to remove annual or other perennial grass varieties and non-typical or off-type plants or areas as well as weeds.

Isolation

Fields for certification must be separated from grasses of another kind or variety by a distance or barrier that will prevent mechanical mixing during harvest and encroachment by vegetative or seed-dispersal means.

Field Inspection

Fields submitted for certification will be subject to inspection within four weeks after planting and up to three times during the season when there is sufficient growth to allow identification of other varieties and kinds of perennial and annual grass species and off-type plants or areas. Applicants may be requested to cease mowing for a period sufficient to allow flowering. Applicants will be given refunds on application fees only if the agency is notified before making the initial inspection of the season.

Specific Field Standards

The maximum permitted frequency of off-type plants of any description or noxious weeds in fields producing any class of certified vegetative turf is:

Foundation Class production – None per acre
Registered Class production – None per acre
Certified Class production – 1 per acre

Foundation Class production – None per acre
Registered Class production – None per acre
Certified Class production – 1 per acre

Offending plants or areas may be rogued for subsequent inspections.

Sod Standards

No off-types, other varieties or kinds or noxious weeds are permitted to be observed in the cut sod or sprigs of any class of certified vegetative turf.

Labeling Vegetative Turf

All sales of certified vegetative turf shall be accompanied by appropriate certification documents to be supplied by the certifying agency, completed by the applicant and provided to the buyer.

Provision of Certification Records

A complete record of the certified vegetative turf sold must be supplied to the certifying agency, including field identification, variety and class, harvest date and quantity sold.