

SMALL GRAIN SEED CERTIFICATION STANDARDS

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 small grain seed.
- B. The General Standards are amplified as follows to apply specifically to the small grain crops.
 - 1. Breeder, Foundation, Registered and Certified classes of planting seed are recognized for all small grain crops, except where otherwise recommended by the originating plant breeder.

II. LAND REQUIREMENTS

A crop of small grain will not be eligible for certification if planted on land which the same kind of crop was grown the year before unless the previous crop was under certification and of the same variety and class. Fields producing Foundation seed shall not have produced seed two years prior unless of the same variety or unless a seedling inspection is done.

III. FIELD INSPECTIONS

- A. A field inspection will be made after the crop is fully headed so that varietal or crop mixtures and prevalence of seed-borne diseases can best be determined. Harvest operations, including swathing and combining, prior to field inspection or reinspection are cause for rejection of the field.
- B. **Application for certification must be submitted by June 1 of each year in which seed is produced.**

IV. FIELD STANDARDS

- A. General
 - 1. Unit of Certification

The field shall be considered the unit of certification. Field boundaries must be definitely established by the grower in accordance with regulations before a field is inspected.

2. Isolation

Each variety must be separated by a 10-foot strip from another variety unless a specific variety requires additional isolation distance.

3. Management

Scattered wild oats in certified fields must not exceed two (2) plants per acre over that portion of the field intended for seed harvest. Isolated patches and contaminated borders must be removed prior to field inspection.

If rejected, a reinspection will be optional to the grower to insure that clean-up efforts have been satisfactory. Extra costs associated with reinspections shall be borne by the grower.

B. Specific Field Requirements

Factor	Maximum Permitted in Each Class (ratio of plants)		
	Foundation	Registered	Certified
Other Varieties* (heads)	none ⁽¹⁾	1:10,000	1:2,000
Inseparable Other Crops (heads) ⁽²⁾	1:10,000	1:10,000	1:5,000
Chemically controllable cereal smuts ⁽³⁾	none ⁽¹⁾	1:5,000	1:3,000
Barley Stripe Mosaic Virus	none ⁽¹⁾	none ⁽¹⁾	none ⁽¹⁾
Prohibited Noxious Weeds (<i>Lack of evidence of control will be cause for rejection</i>)			

* Other varieties shall be considered to include plants that can be differentiated from the variety that is being inspected. However, other varieties shall not include variations which are characteristic of the variety.

⁽¹⁾ None tolerance means none found during the normal inspection procedures. None is not a guarantee to mean the field inspected is free of the factor.

⁽²⁾ No rye or triticale shall be permitted in wheat, barley or oat.

⁽³⁾ If chemically controllable seed-borne diseases are noted upon field inspection or laboratory examination in Foundation or Registered classes, appropriate seed treatment will be required. Notification of Certified class seed customers regarding the presence of seed-borne disease is required.

The following weeds have a negative impact on seed production of this crop. The weeds marked with an asterisk impact certification of this crop. The other weeds listed are difficult to separate, and can result in increased seed loss during cleaning. Control of these weeds is recommended.

Canada thistle*, field bindweed*, jointed goatgrass*, rye*, triticale*, wild oats*, wild-proso millet*, wild buckwheat.

V. SEED STANDARDS

Factor	Standards for Each Class		
	Foundation	Registered	Certified
Pure Seed (Min.)	98.00%	98.00%	98.00%
Other Varieties (Max.)	none ⁽¹⁾	1/lb	2/lb
Other Small Grain			
Crops (Max.) ⁽²⁾	none ⁽¹⁾	1/lb	2/lb
Total Other Crop Seed (Max.)	none ⁽¹⁾	0.03%	0.05%
Inert Matter (Max.)	2.00%	2.00%	2.00%
Noxious Weeds ⁽³⁾	none ⁽¹⁾	none ⁽¹⁾	none ⁽¹⁾
Other Weeds (Max.)			
Small grains other than millet	0.01%	0.01%	0.03%
Millet	0.05%	0.2%	0.2%
Germination (Min.)	85.00%	90.00%	90.00%
Barley Stripe Mosaic Virus ⁽⁴⁾	none ⁽¹⁾	none ⁽¹⁾	none ⁽¹⁾
Ergot (Max.)	none ⁽¹⁾	0.05%	0.05%

(1) None tolerance means none found in the sample submitted. None is not a guarantee to mean the lot inspected is free of the factor.

(2) No rye or triticale shall be permitted in wheat, barley or oat.

(3) None of the Prohibited Noxious Weeds listed in the General Standards, *nor any wild oats or jointed goatgrass allowed in any class of seed.*

(4) Serological tests for Barley Stripe Mosaic Virus of Breeder, Foundation, and Registered barley seed is a mandatory requirement for barley seed certification. *(Refer to General Standards, Page 17 for detailed information).*

**CYTOPLASMIC MALE STERILE HYBRID WHEAT
CO-MINGLED PARENT LINES – 75% TO 95% Hybrid
SEED CERTIFICATION STANDARDS**

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 cytoplasmic male sterile hybrid wheat co-mingled parent lines 75% to 95% hybrid.
- B. The General Standards are amplified as follows:
 - 1. A commercial hybrid is one to be planted for any use except seed production.
 - 2. Only the class Certified is recognized in the production of commercial hybrid seed.
 - 3. A commercial hybrid to be certified must be produced from certified Foundation class seed stocks that have been field inspected. These seedstocks shall consist of male steriles, inbred lines, and/or hybrids.
 - 4. Definition of parental types:
 - a. Seed Parent (A-line): Cytoplasmic male sterile line (CMS), which when pollinated by a Restorer (R line), results in hybrid seed.
 - b. Maintainer (B-line): A line which is genetically identical to the Seed Parent, but with normal fertile cytoplasm, used to increase A-line seed while maintaining the male sterility of the CMS Seed Parent.
 - c. Restorer (R-line): Any male fertile line possessing nuclear restoration genes used as a male parent in the production of a commercial hybrid.

II. LAND REQUIREMENTS

- A. Pollinator lines planted for the production of Foundation class seed shall be planted on land on which another kind was grown for the two previous crop years.
- B. Maintenance of sterile lines for the production of Foundation class seed shall be planted on land on which another kind was grown for the two previous crop years.
- C. Certified class commercial hybrid fields shall be planted on fields on which the previous crop was another kind.

III. FIELD INSPECTIONS

- A. Seed production fields, or parts of fields, shall be inspected as follows:
 - 1. A x B production: Seed parents shall be inspected three (3) times.
 - a. The first inspection shall occur after heading but before anthesis begins to check for off-type plants.

- b. Two inspections should occur during anthesis to check for shedders.
2. Male lines (Maintainers and Restorers) shall receive at least one inspection for purity. Harvest operations, including swathing and combining, prior to field inspection or reinspection are cause for rejection of the field.
3. Commercial hybrid production fields shall be inspected at least once. Harvest operations, including swathing and combining, prior to field inspection or reinspection are cause for rejection of the field.

B. Application for certification must be submitted by June 1 of each year in which seed is produced.

IV. FIELD STANDARDS

A. General

1. Unit of Certification

- a. The field shall be considered the unit of certification. Field boundaries must be definitely established by the grower in accordance with regulations before a field is inspected.

2. Isolation

- a. (A x B): Fields or parts of fields acceptable for the production of seed parents to be used for the production of seed of a hybrid must be so located that the seed parent is not less than 2,640 feet (1/2 mile) from fields of other kinds or varieties which would provide a source of contamination.
- b. Male lines (Maintainers and Restorers) shall receive at least one inspection for purity. Harvest operations, including swathing and combining, prior to field inspection or reinspection are cause for rejection of the field.
- c. Commercial hybrid fields must be so located that the seed parent is not less than 330 feet from fields of other kinds or varieties which would provide a source of contamination.

1. The Seed Parent, the Restorer Line, and the commercial hybrid shall meet the following:

Maximum Permitted (ratio of heads)		
Factor	Seed Parent	Commercial Hybrid
Other Varieties* (heads)	1:3,000	1:3,000
Inseparable Other Crops	1:30,000	1:5,000
<i>Prohibited Noxious Weeds (Lack of evidence of control will be cause for rejection)</i>		

* Other varieties shall be considered to include plants that can be differentiated from the variety that is being inspected. However, other varieties shall not be considered to include variations which are characteristic of the variety.

(1) None tolerance means none found during the normal inspection procedures. None is not a guarantee to mean the field inspected is free of the factor.

(2) No rye or triticale shall be permitted in wheat, barley or oat.

(3) If chemically controllable seed borne diseases are noted upon field inspection or laboratory examination in Seed Parents, appropriate seed treatment will be required.

The following weeds have a negative impact on seed production of this crop. The weeds marked with an asterisk impact certification of this crop. The other weeds listed are difficult to separate, and can result in increased seed loss during cleaning. Control of these weeds is recommended.

Canada thistle*, field bindweed*, jointed goatgrass*, rye*, triticale*, wild oats*, wild-proso millet*, wild buckwheat.

V. SEED STANDARDS

Factor	Seed Parent	Commercial Hybrid
Pure Seed (Min.)	96.00%	96.00%
Hybridity ⁽¹⁾	N/A	75%
Other Varieties (Max.)	0.05%	0.2%
Total Other Crop Seed (Max.)	0.06%	0.25%
Inert Matter (Max.)	4.00%	4.00%
Noxious Weeds ⁽³⁾	none ⁽²⁾	none ⁽²⁾
Other Weeds (Max.)	0.01%	0.03%
Germination (Min.)	85.00%	85.00%

⁽¹⁾Hybridity will be determined by a method acceptable to the seed certifying agency. The results must be submitted to the agency with a declaration of the hybridity prior to final certification of each lot of spring wheat, and within 160 days post-harvest for winter cereals.

⁽²⁾None tolerance means none found in the sample submitted. None is not a guarantee to mean the lot inspected is free of the factor.

⁽³⁾ No rye or triticale shall be permitted.

⁽³⁾ None of the Prohibited Noxious Weeds listed in the General Standards, *nor any wild oats or jointed goatgrass.*