

## **Specific Certification Standards Small Grains (Barley, Oat, Rye, Triticale, Wheat)**

### **I. Explanation of General Standards as Applied to Small Grain**

A. The General Seed Certification Standards as adopted are basic and together with the following specific standards constitute the standards for certification of small grain seed.

B. The General Standards are further defined as follows to apply specifically to small grain:

#### Section IX. Classes and sources of certified seed

1. Breeder seed shall be seed obtained from head-to-row plantings of fixed types or other methods acceptable to the breeder and the Association. It shall be produced by the original breeder or his/her legal successors and shall be used for the initial and recurring seed increases of Foundation seed.

2. Foundation seed shall be seed obtained from the increase of Breeder or Foundation seed produced by the North Carolina Foundation Seed Producers, Inc., or by the sponsoring company/organization.

3. Registered seed shall be the progeny of Breeder or Foundation seed.

4. Certified seed shall be the progeny of Breeder, Foundation, or Registered seed.

#### Section XI. Handling of crop prior to inspection

Corncockle, ragged robin, wild mustard, johnsongrass, wild radish, cheat, darnel, dock, wild onion, wild garlic, blessed thistle, other crop kind such as ryegrass and vetch, and plants that are off-type for the variety should be removed from the field prior to inspection.

### **II. Land Requirements**

A crop of small grain will not be eligible for certification if planted on land which produced small grain the previous small grain season unless the previous crop was grown from certified seed of the same variety. In no-till situations where the land is not turned between crops of small grain, there must be two growing seasons between crops of small grain to be certified foundation or registered class if the previous crop grown was not from certified seed of the same variety. In fields where hard, red or white winter wheat was grown, there must be two growing seasons between crops of small grains to be certified in any class if the previous crop was not from certified seed of the same variety.

### **III. Field Inspections**

An inspection shall be made after the crop is fully headed at which time varietal, crop mixture and prevalence of smut can best be determined.

### **IV. Field Standards**

A. General requirements

1. Unit of certification

The field shall be considered the production unit.

Isolation

a. Barley, Oat, Triticale, Wheat

A field producing any class of certified seed of a specific crop kind shall be separated from fields producing other varieties of the same kind by a minimum distance of ten (10) feet. If two or more varieties are planted in the same field then the field must be inspected a second time to ensure that the adjacent four border rows are left unharvested until after this second inspection. A flag must

be placed outside the normal operating area of the field to delineate the two varieties. A field producing any class of certified seed of a specific crop kind shall be separated from fields producing inseparable crop kinds or from field of the same variety planted with non-certified seed by a distance adequate to prevent mechanical mixing. A field with two different classes of seed of the same variety must be harvested so a that minimum of 10 feet of the border rows of the higher class are harvested with the lower class of seed.

b. Rye

A field producing certified seed shall be separated from fields of any other variety or fields of the same variety that do not meet the varietal purity requirements of the class of seed inspected and are of the same chromosome number by at least:

Breeder, Foundation, Registered 1,320 feet

Certified 660 feet

Isolation between diploid and tetraploid rye shall be at least 15 feet.

c. The following isolation requirements will apply if adjoining field is same kind of crop and showing more than a trace of loose smut and is maturing at the same time as the one to be inspected:

	Isolation distance (feet)		
Crop Kind	Foundation	Registered	Certified
Barley	2,640	660	150
Wheat	150	150	150

B. Specific requirements

Factor	Foundation	Registered	Certified
Other varieties and off-types (maximum)	0.02%	0.05%	0.1%
Other crops (maximum)	None	---- <sup>1</sup>	---- <sup>1</sup>
Weeds (maximum)	---- <sup>2</sup>	---- <sup>1</sup>	---- <sup>1</sup>
Loose smut and covered smut <sup>3</sup>			
Oat, Triticale, Wheat	----	0.05%	0.25%
Barley	----	0.02%	0.1%

<sup>1</sup> Reject if severe

<sup>2</sup> No noxious weeds, darnel, chess, or cheat

<sup>3</sup> Require a recommended seed treatment for certification if the field exceeds the standard

**V. Seed standards**

- A. Sample size: two (2) pounds representing the entire seed lot.
- B. The following seed standards must be met.

<b>Factor</b>	<b>Foundation</b>	<b>Registered</b>	<b>Certified</b>
Pure seed (minimum) Barley, Oat, Triticale, Wheat, & Rye	98%	98%	98%
Inert matter (maximum) Barley, Oat, Triticale, Wheat, & Rye	2%	2%	2%
Weed seed (maximum) Restricted noxious weeds <sup>1</sup> (maximum)	0.01% None	0.02% None	0.05% 4/lb <sup>2</sup>
Other crop seed (maximum) Other kinds Other varieties and off-types	None 0.02%	1/lb <sup>3</sup> 0.05%	5/lb <sup>4</sup> 0.1%
Germination (minimum) Barley, oats, triticale, wheat Rye	---- ----	85% 80%	85% 80%
Barley loose smut <sup>7</sup>	----	0.05%	----

<sup>1</sup> Includes all noxious weeds, darnel, chess, and cheat. “Noxious Weed List,” Rules, Regulations, Definitions and Standards of the North Carolina Department of Agriculture & Consumer Services. (See Certification Handbook, General Seed Certification Standards, Section XII. “Contaminating Crops and Weeds”)

<sup>2</sup> Blessed thistle, cocklebur, sandbur, sicklepod, spurred anoda, velvetleaf, wild onion, and wild garlic are limited to four (4) seed per pound.

<sup>3</sup> Limited to other small grain

<sup>4</sup> Limited to other small grain, except five rye in other small grain, five vetch, five sorghum, or five soybean seed per pound

<sup>5</sup> Loose smut to be determined by embryo test. If field or seed standards are exceeded, a recommended seed treatment must be used for certification.

**C. Seed Treatment**

If field or seed standards for loose smut are exceeded, a recommended seed treatment for control is required. If other chemically controllable seed-borne diseases are noted upon field or laboratory observations, a recommended fungicide should be used.