

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

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

- A. The General Seed Quality Assurance (QA) Standards as adopted are basic and together with the following specific standards constitute the standards for QA of small grain seed.
- B. The General Standards are further defined as follows to apply specifically to small grain:  
Classes and sources of QA seed:
  - 1. Breeder seed shall be seed obtained from the original breeder or his/her legal successors and shall be used for the initial and recurring seed increases of Parent seed.
  - 2. Parent seed shall be seed obtained from the increase of Breeder or Parent seed produced by a Foundation Seed Producing Agency, or by the sponsoring company/organization.
  - 3. QA seed shall be the progeny of Breeder, Parent, or designated QA seed source that meet parental standards by the sponsoring organization.
- C. Eligibility Requirements:
  - 1. Products initially entering the QA program must show proof of origin of seed and be approved by a certifying agency.
  - 2. Products must also be accompanied by an adequate plant and seed description enabling the agency to make accurate and reliable field and seed evaluations. This description will be kept on file by the agency. Additional testing requirements beyond visual must be defined by the sponsoring company
  - 3. Varieties currently marketed as Certified seed are not eligible to be labeled under the QA program unless authorization is given by the originating institution.

### **II. Land Requirements**

A crop of small grain will not be eligible for QA certification if planted on land which produced small grain the previous small grain season unless the previous crop was grown from QA 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 classified QA if the previous crop was not from QA 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.

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.

#### IV. Field Standards

##### A. General requirements

###### 1. Unit of QA certification

The field shall be considered the production unit.

Isolation

###### a. Barley, Oat, Triticale, Wheat

A field producing any class of QA 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 10 feet are left un-harvested 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 QA 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-QA 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 that a 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 QA 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, Parent

1,320 feet

QA

660 feet

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

##### B. Specific requirements

Factor	Breeder	Parent	QA
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. A conditioned representative lot sample must be submitted to the agency and tested for varietal purity, germination and physical purity. The following seed standards must be met.

Factor	Breeder	Parent	QA	Below Standard
Pure seed (minimum) Barley, Oat, Triticale, Wheat Rye	98% 97%	98% 97%	98% 97%	97% 96%
Inert matter (maximum) Barley, Oat, Triticale, Wheat Rye	2% 3%	2% 3%	2% 3%	3% 4%
Weed seed (maximum) Restricted noxious weeds <sup>1</sup> (maximum)	0.01% None	0.02% None	0.05% None <sup>2</sup>	0.1% 5/lb <sup>3</sup>
Other crop seed (maximum) Other kinds Other varieties and off-types	None 0.02%	1/lb <sup>4</sup> 0.05%	5/lb <sup>5</sup> 0.1%	10/lb <sup>6</sup> 0.1%
Germination (minimum) Barley, oats, triticale, wheat Rye	---- ----	85% 80%	85% 80%	75% 70%
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> Permit one viable wild onion or wild garlic bulblet per pound

<sup>3</sup> Blessed thistle, cocklebur, sandbur, sicklepod, spurred anoda, velvetleaf, wild onion, and wild garlic are limited to four (4) seed per pound.

<sup>4</sup> Limited to other small grain

<sup>5</sup> Limited to other small grain, except three rye in other small grain, one vetch, five sorghum, or five soybean seed per pound

<sup>6</sup> Rye in other small grain and vetch limited to five seed of each per pound

<sup>7</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.

## **VI. Labeling Requirement**

- A. QA labels will be available from the agency for seed meeting the QA field and laboratory guidelines for genetic purity. The labels shall be green in color and have printed on them the QA logo (a registered trademark), the phrase “Quality Assurance”, and “Member of the Association of Official Seed Certifying Agencies”. The QA label will be imprinted with kind, variety, brand, blend, or hybrid designation. The label will also contain a lot number and may contain a producer number or designation and the phrase “variety not stated”, if applicable. Analysis information may be printed on the label upon request. The QA logo may be used by having it printed directly on seed bags or other documents.
- B. Below standards analysis must be present and clearly stated on the Label when used. Approval by NCCIA is required to use the “below standards” provisions of this standard.