

## CHAPTER 74-03-14

### SPECIFIC CROP REQUIREMENTS - HYBRID WHEAT AND HYBRID RYE

#### Section

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#### **74-03-14-01. General requirements.**

The following genetic standards are applicable for the production of parental lines and hybrids of wheat and rye produced by commingling a cytoplasmic male-sterile seed parent and a fertility restorer line.

1. **Eligibility requirements for varieties.** Standards applicable to wheat and rye varieties apply to the production of pollinator lines.
2. **Definition of parental types.**
  - a. **Maintainer (B-line).** A line with normal fertile cytoplasm which is used as a pollinator to increase the seed parent.
  - b. **Seed parent (A-line).** A cytoplasmic male-sterile line, which is genetically identical to the maintainer line that when pollinated by a restorer, produces hybrid seed.
  - c. **Restorer (R-line).** Any male fertile line possessing nuclear restoration genes used as a pollinator in the production of commercial hybrid seed.
3. **Eligible seed classes.**
  - a. Only the certified class is recognized in the production of commercial hybrid seed. A commercial hybrid is planted for any use except for seed production. To be certified, a commercial hybrid must be produced from foundation class seed stocks. These seed stocks must consist of male steriles, inbred lines, and/or hybrids.
  - b. Only the foundation class is recognized for parental lines.

**History:** Effective July 1, 2018; amended effective July 1, 2020.

**General Authority:** NDCC 4.1-52-10

**Law Implemented:** NDCC 4.1-52-10, 4.1-53-42

#### **74-03-14-02. Land requirements.**

1. Maintainer and restorer lines are not eligible for foundation class if planted on land on which the same kind was grown the previous two years unless the previous crop was the same variety and was inspected for certification.
2. Seed parents are not eligible for certification if planted on land on which the same kind was grown the previous two years.
3. Commercial hybrid are not eligible for certification if planted on land on which the same kind was grown the previous two years.

**History:** Effective July 1, 2018.

**General Authority:** NDCC 4.1-52-10

**Law Implemented:** NDCC 4.1-52-10, 4.1-53-42

### 74-03-14-03. Field inspection.

Fields for the production of parental lines utilized in hybrid wheat and hybrid rye production must be inspected as follows. Roguing to remove undesirable plants must be done prior to field inspection. Rogued plants must be removed from the field.

1. AxB production. Seed parents must be inspected three times. The first inspection must occur after heading but before anthesis to check for off-type plants. The second and third inspections must be during anthesis to check for shedders in the seed parent, the presence of which must be communicated immediately with the seed producer to allow for roguing.
2. Maintainers and restorers. Male lines must be inspected at least once for purity after the crop is fully headed.
3. Commercial hybrid production fields must be inspected at least once.

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**General Authority:** NDCC 4.1-52-10

**Law Implemented:** NDCC 4.1-52-10, 4.1-53-42

### 74-03-14-04. Field standards.

#### 1. Isolation.

- a. Seed parent increases (AxB). Fields or parts of fields acceptable for production of seed parents to be used for the production of commercial hybrid seed must be so located that the seed parent is not less than two thousand six hundred forty feet [804.67 meters] for wheat and three thousand two hundred eighty feet [1000 meters] for rye from fields of other kinds or varieties that could provide a source of contamination, or from fields of the same variety that do not meet varietal purity requirements for certification. The A-line and B-line must be separated by an unplanted strip of ground adequate to prevent mechanical mixture.
- b. Maintainer and restorer increases. Fields or parts of fields acceptable for production of pollinator lines must be so located that the line is not less than thirty feet [9 meters] for wheat and six hundred sixty feet [200 meters] for rye from fields of other kinds or varieties which could provide a source of contamination. or from fields of the same variety that do not meet varietal purity requirements for certification. Prior to inspection, the field must be isolated from inseparable crops by a strip at least five feet wide to prevent mechanical contamination.
- c. Commercial hybrids. Fields or parts of fields acceptable for production of commercial hybrid seed must be no less than three hundred thirty feet [100.58 meters] for wheat and one thousand six hundred forty feet [500 meters] for rye from fields of other kinds or varieties that would provide a source of contamination, or from fields of the same variety that do not meet varietal purity requirements for certification.

#### 2. Specific field standards.

Factor	A-Line Foundation	B- and R-Lines Foundation	Commercial Hybrid Certified
Pollen shedders	1:3,000	N/A	N/A
Other varieties *	1:3,000	1:3,000	1:3,000
Inseparable other crops	1:30,000	1:30,000	1:5,000

Prohibited noxious weed seeds **	none	none	none
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\*Other varieties include plants that can be differentiated from the variety being inspected, but may not include variants that are characteristic of the variety.

\*\*The tolerance for prohibited or objectionable weeds, or both, in the field will be determined by the inspector.

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**General Authority:** NDCC 4.1-52-10

**Law Implemented:** NDCC 4.1-52-10, 4.1-53-42

#### **74-03-14-05. Seed standards.**

A variety identification test is required for A-, B-, and R-lines of wheat. A hybridity test is required on hybrid seed. A seed count is required on all hybrids.

Factor	Standards for Each Class	
	A-, B-, and R-Lines	Commercial Hybrid
	Foundation	Certified
Pure seed (minimum)	98.0 percent	98.0 percent
Hybridity (minimum) *	N/A	75.0 percent
Total weed seeds (maximum)	0.10 percent	0.10 percent
Other varieties **	0.005 percent	0.05 percent
Other crop seeds (maximum)	0.01 percent	0.08 percent
Inert matter (maximum) ***	2.0 percent	2.0 percent
Prohibited noxious weed seeds	none	none
Germination	80.0 percent	80.0 percent

\*Hybridity will be determined by an acceptable method and test results shall be submitted to the agency with a declaration of the hybridity prior to final certification of each lot of spring cereals and within one hundred sixty days of harvest for winter cereals.

\*\*Other varieties include plants that can be differentiated from the variety being inspected, but may not include variants that are characteristic of the variety.

\*\*\*Inert matter may not include more than 0.5 percent of material other than seed fragments of the variety under consideration.

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