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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
Rye
(*Secale cereal* L.)

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME

LOCATION OF FIELD TRIAL (S) (NEAREST CITY, STATE, COUNTY, AND COUNTRY)	**FOR OFFICIAL USE ONLY:**
	PVPO NUMBER

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the spaces below. Place a zero in the first space (e.g. 0 9 or 0 9 9) when number is either 99 or less or 9 or less, respectively.

Characteristics described, including numerical measurements should represent those that are typical for the variety.

All questions need not be answered; however, the more complete the information given the more adequate the variety will be identified.

Morphology:

I. PLANT:

1. _____Plant Ploidy:

○ A. Diploid (2n=14) ○ B. Tetraploid (2n = 28)

○ C. Other (Specify) _____

2. _____Plant Type:

○ A. Annual ○ B. Perennial

II. ADAPTATION:

1. _____Plant Adaptation:

○ A. North ○ B. South

III. GROWTH HABIT:

1. _____Growth Habit:

○ A. Spring ○ B. Intermediate ○ C. Winter

2. _____Photoperiod:

○ A. Insensitive ○ B. Sensitive

III. GROWTH HABIT: (con.)

3. _____Juvenile Plant Growth:

○ A. Erect ○ B. Intermediate ○ C. Prostrate

IV. EAR EMERGENCE:

1. _____Days earlier than Variety _____

○ A. Von Lochow ○ B. Frontier ○ C. Cougar

○ D. Rymin ○ E. Florida Black ○ F. Weser

○ G. Gator

2. _____Days to Ear Emergence, Same as Variety _____

○ A. Von Lochow ○ B. Frontier ○ C. Cougar

○ D. Rymin ○ E. Florida Black ○ F. Weser

○ G. Gator

3. _____Days Later than Variety _____

○ A. Von Lochow ○ B. Frontier ○ C. Cougar

○ D. Rymin ○ E. Florida Black ○ F. Weser

○ G. Gator

V. MATURITY:

1. _____Maturity:

○ A. Very Early ○ B. Early ○ C. Mid-Season

○ D. Late ○ E. Very Late

2. _____Days to Maturity, Earlier than Variety_____

○ A. Von Lochow ○ B. Frontier ○ C. Cougar

○ D. Rymin ○ E. Florida Black ○ F. Weser

○ G. Gator

3. _____Days to Maturity, Same as Variety_____

○ A. Von Lochow ○ B. Frontier ○ C. Cougar

○ D. Rymin ○ E. Florida Black ○ F. Weser

○ G. Gator

4. _____Days to Maturity, Later than Variety_____

○ A. Von Lochow ○ B. Frontier ○ C. Cougar

○ D. Rymin ○ E. Florida Black ○ F. Weser

○ G. Gator

VI. HEIGHT:

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1. _____Plant Height:

A. Dwarf B. Semi-Dwarf C. Short

D. Mid-Tall E. Tall

2. _____Plant Height at Maturity (cm)

3. _____Plant Height (cm) Shorter than Variety_____

A. Von Lochow B. Frontier C. Cougar

D. Rymin E. Florida Black F. Weser

G. Gator

4. _____Plant Height (cm) Same as Variety_____

A. Von Lochow B. Frontier C. Cougar

D. Rymin E. Florida Black F. Weser

G. Gator

5. _____Plant Height (cm) Taller than Variety_____

A. Von Lochow B. Frontier C. Cougar

D. Rymin E. Florida Black F. Weser

G. Gator

VII. STEM:

1. _____Stem Diameter 4 Inches Above Ground (mm)

2. _____Stem Neck Hairiness:

A. Glabrous B. Slightly Hairy C. Moderately Hairy

D. Densely Hairy

3. _____ Anthocyanin in Uppermost Node:

A. Absent B. Present

4. _____Internode Length Between Flag Leaf and Leaf Below (cm)

5. _____Number of Tillers more than Variety_____

A. Von Lochow B. Weser C. Frontier

D. Tetra Petkus

6. _____Number of Tillers, same as Variety_____

A. Von Lochow B. Weser C. Frontier

D. Tetra Petkus

7. _____Number of Tillers fewer than Variety_____

A. Von Lochow B. Weser C. Frontier

D. Tetra Petkus

VII. STEM: (con.)

8. _____Resistance to Lodging:

○ A. Good (Seldom lodged) ○ B. Fair (Often lodged) ○ C. Poor (Usually lodged)

9. _____Stem Nodes:

○ A. Solid ○ B. Intermediate ○ C. Hollow

VIII. LEAVES:

1. _____Leaf Length, 1st leaf below flag leaf (cm)

2. _____Leaf Width, 1st leaf below flag leaf (cm)

3. _____Flag Leaf Twist:

○ A. Not Twisted ○ B. Twisted

4. _____Flag Leaf Sheath Glaucosity:

○ A. Absent or Very Weak ○ B. Very Weak to Weak ○ C. Weak

○ D. Weak to Medium ○ E. Medium ○ F. Medium to Strong

○ G. Strong ○ H. Strong to Very Strong ○ I. Very Strong

5. _____Number of Leaves Originating from Nodes Above Ground (#)

6. _____Waxy Bloom on Leaf (at boot):

○ A. Absent ○ B. Slightly Waxy ○ C. Waxy

7. _____Upper Leaf Surface (at boot):

○ A. Glaberous ○ B. Slightly Spinous ○ C. Pubescent

8. _____Leaf Color (at boot):

○ A. Dark Green (Frontier, Weser) ○ B. Light Green (Florida Black)

○ C. Other (Specify) _____

9. _____Main Stem Leaf Habit (during tillering):

○ A. Upright ○ B. Recurved ○ C. Drooping

10. _____Main Stem Leaf Habit (at boot):

○ A. Upright ○ B. Recurved ○ C. Drooping

11. _____Leaf Sheath (at boot):

○ A. Glabrous ○ B. Lightly Spinous ○ C. Pubescent

12. _____Anthocyanin in Auricles:

○ A. Absent ○ B. Present

IX. HEAD:

1. _____ Head Density:

○ A. Lax (Frontier) ○ B. Lax to Mid-Dense

○ C. Mid-Dense (Tetra Petkus) ○ D. Mid-Dense to Dense

○ E. Dense (Cougar)

2. _____Head Attitude:

○ A. Erect ○ B. Slightly Curved ○ C. Inclined

IX. HEAD: (con.)

3. _____Shape:

A. Fusiform (Tapering) B. Parallel

C. Oblong D. Elliptical

E. Clavate F. Other (Specify) _____

4.. _____Waxy Bloom:

A. Absent B. Slightly Waxy C. Waxy

5. _____Anthocyanin:

A. Absent B. Present

6. _____Resistance to Shattering:

A. Good B. Fair C. Poor

7. _____Head Length:

A. Long B. Mid-Long to Long C. Mid-Long

D. Short to Mid-Long E. Short

8. _____Head Length Excluding Awns (cm)

9. _____Awn Length (cm)

10. _____Head Width:

A. Very Narrow B. Very Narrow to Narrow C. Narrow

D. Narrow to Mid-wide E. Mid-wide F. Mid-wide to Wide

G. Wide H. Wide to Very Wide I. Very Wide

11. _____Head Width (mm)

12. _____Anthocyanin in Awns

A. Absent B. Slightly Pigmented C. Strongly Pigmented

13. _____Glume (chaff) Color:

A. White B. Light Yellow C. Yellow

X. COLEOPTILE:

1. _____ Coleoptile Color:

A. Green B. Red (Purple) C. Mixed

2. _____Coleoptile Length:

A. Very Short B. Very Short to Short C. Short

D. Short to Medium E. Medium F. Medium to Long

G. Long H. Long to Very Long I. Very Long

3. _____Coleoptile Length (mm)

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XI. SEED:

1. Seed Color (Total = 100%):

_____% Black _____% Gray _____% Blue

_____% Blue-Green _____% Green _____% Olive-Green

_____% Yellow _____% Tan _____% Brown

_____% Other (Specify) _____

_____% Other (Specify) _____

2. _____Aleurone Color:

○ A. Colorless (White) ○ B. Blue

3. _____Endosperm:

○ A. Light ○ B. Dark ○ C. Mixed

4. _____Shape:

○ A. Elliptical ○ B. Fusiform

○ C. Other (Specify) _____

5. _____1000 Seed Weight (g)

6. _____Seed Size:

○ A. Very Small ○ B. Very Small to Small

○ C. Small (Caribou) ○ D. Small to Medium

○ E. Medium (Puma) ○ F. Medium to Large

○ G. Large (Rymin) ○ H. Large to Very Large

○ I. Very Large (Tetra Petkus)

7. _____Seed Width (mm)

8. _____Seed Width:

○ A. Very Narrow ○ B. Very Narrow to Narrow ○ C. Narrow

○ D. Narrow to Mid-Wide ○ E. Mid-Wide ○ F. Mid-Wide to Wide

○ G. Wide ○ H. Wide to Very Wide ○ I. Very Wide

9. _____Seed Length (mm)

10. _____Seed Length:

○ A. Very Short ○ B. Very Short to Short ○ C. Short

○ D. Short to Mid-Long ○ E. Mid-Long ○ F. Mid-Long to Long

○ G. Long ○ H. Long to Very Long ○ I. Very Long

11. _____Seed Surface:

○ A. Smooth ○ B. Other (Specify) _____

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XI. SEED: (con.)

12. _____Seed Phenol Reaction:

◯ A. Absent or Very Light	◯ B. Very Light to Light	◯ C. Light
◯ D. Light to Medium	◯ E. Medium	◯ F. Medium to Dark
◯ G. Dark	◯ H. Dark to Very Dark	◯ I. Very Dark

XII. DISEASE AND INSECT RESISTANCE:

(0 = Not Tested 1 = Susceptible 2 = Resistant)
(Indicate as completely as possible including species and races where known)

☐ Leaf rust – Puccinia recondite	Race: _____
☐ Stem rust – P. graminis secalis	Race: _____
☐ Stripe rust – P. glumarum	Race: _____
☐ Powdery mildew – Erysiphe graminis secalis	Race: _____
☐ Anthracnose – Colletotrichum graminicola	Race: _____
☐ Scald – Rhyncosporium secalis	Race: _____
☐ Ergot – Claviceps purpurea	Race: _____
☐ Other Disease _____	Race: _____
☐ Other Disease _____	Race: _____
☐ Insect _____	Race: _____
☐ Insect _____	Race: _____

XIII. MOST SIMILAR VARIETY TRAITS:

INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THE APPLICATOIN VARIETY FOR THE FOLLOWING CHARACTERS:

Character	Variety	Character	Variety
Growth Habit		Tillering	
Leaf Width		Ear Emergence	
Leaf Length		Area of Adaptation	
Leaf Color		Winter Hardiness	
Leaf Carriage		Drought Resistance	
Seed Shape		Lodging	
Seed Size		Shattering	

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[PLEASE ENTER ADDITIONAL VARIETY TRAITS ON NEXT PAGE]

XIV. ADDITIONAL DESCRIPTION:

Describe all characteristics that cannot be adequately described in the form above.

Comparative varieties should be used where appropriate, such as for disease.

Append all comparative trial and evaluation data.

(Use additional sheets as required)