

PRIMA WINTER RYE

Prima, a high yielding cultivar of winter rye (*Secale cereale* L.), was developed at the Research Station, Agriculture Canada, Swift Current, Saskatchewan and was licensed in July 1984. In addition to its high yielding potential, Prima has good winterhardiness, high kernel mass and test mass. It is rated medium both in maturity and resistance to lodging. Prima is well adapted to Western Canadian growing conditions. Breeder seed of Prima will be maintained at Regina Research Station, Agriculture Canada. Seed will be distributed through SeCan.

Key words: Rye (winter), cultivar description

[Seigle d'hiver Prima.]

Titre abrégé: Seigle d'hiver Prima.

Prima, nouveau cultivar productif de seigle d'hiver (*Secale cereale* L.) était développée par la direction de la recherche, Agriculture Canada. En plus d'un rendement élevé, Prima a une bonne résistance au froid et de poids de l'hectalitre et de 1000 grains élevés. Il est moyen en maturité et en résistance à la verse. Prima est bien acclimaté aux conditions de végétation de l'ouest canadien. Il a été homologué en juillet 1984. La semence de l'obtenteur sera conservée par la Station fédérale de recherches agricoles de Swift Current. Elle sera distribuée par SeCan.

Mots clés: Seigle (d'hiver) description de cultivar

Prima, a high yielding cultivar of winter rye (*Secale cereale* L.), was developed at the Research Station, Agriculture Canada, Swift Current, Saskatchewan and tested in the winter rye cooperative tests from 1980 to 1983 under the number RT141. License number 2435 was issued for Prima in July 1984 by the Food Production and Inspection Branch of Agriculture Canada.

Pedigree and Breeding Methods

Prima was selected from progeny of the hybrid Sangaste//Pekus/Dakold/3/Rymin. The cross was produced in 1973 and subjected to mass selection for three generations and subsequently to 3 years of selection for yield potential. During this time the progeny were reduced to seven selections from 345 single-plant progeny rows. Selected lines from the third year of yield selection were bulked and became RT141 which was tested in cooperative trials for 4 years.

Performance and Adaptation

Prima outyielded the best check cultivar, Musketeer, in Western Canada by 6% in *Can. J. Plant Sci.* 65: 447-448 (Apr. 1985)

Alberta and Saskatchewan and by 5% in Manitoba (Table 1).

Description

KERNEL. Kernel mass is rated high (Table 2), average size is large, but there is variability, kernels are mid-long to long, color is light blue.

MATURITY. Prima is equal to Cougar and Puma, later than Frontier and Musketeer and earlier than Kodiak (Table 2).

SPIKE. Awned, long, mid-lax, nodding at maturity and white chaff.

Straw. Taller than Cougar, equal to Puma and Musketeer, and shorter than Frontier and Kodiak (Table 2). Straw strength is greater than Frontier and Puma, but less than Cougar, Musketeer and Kodiak.

SHATTERING. Resistance is comparable to Puma, Cougar and Musketeer.

WINTERHARDINESS. Prima is about equal to Frontier, Puma, and Cougar, less than Musketeer and greater than Kodiak (Table 2).

DISEASE. Reaction to ergot (*Claviceps purpurea* (Fr.) Tul.) is similar to other cultivars. Reaction to stem smut (*Urocystis oc-*

Table 1. Relative yield of Prima, Musketeer, Frontier, Cougar, Puma and Kodiak winter rye in the Prairie Provinces (1980-1983)

Province	Yield (% of Musketeer)						No. of station years
	Prima	Musketeer	Frontier	Cougar	Puma	Kodiak	
Saskatchewan	106	100	94	95	98	82	28
Alberta	106	100	88	88	94	94	11
Manitoba	105	100	96	93	97	85	14

Table 2. Summary of agronomic data from Western Cooperative Winter Rye tests (1980-1983)

Cultivar	Winter survival (%) (11)†	Test weight (kg/hL) (57)	1000 kernel wt. (g) (54)	Deviation from Musketeer			Lodging resistance (1-9)‡	Stalk smut resistance (3)
				Heading (days) (14)	Maturity (days) (21)	Height (cm) (50)		
Prima	86	71	30	+2	+1	0	3.1	MS
Musketeer	91	71	30	0	0	0	2.3	MS
Frontier	87	73	27	0	0	+3	4.3	S
Cougar	87	71	26	+2	+1	-9	2.4	HS
Kodiak	79	67	30	+4	+2	+4	2.5	R
Puma	83	71	27	+1	+1	0	3.8	S

†No. of station years of data.

‡1 = no lodging, 9 = severe lodging.

culta) is similar to that of the moderately susceptible checks Puma and Musketeer and less susceptible than Cougar.

ADAPTATION. The rye growing areas of the Prairies.

Maintenance of Pedigree Seed Stocks

Breeder seed will be maintained at Agriculture Canada Research Station, Regina, Saskatchewan. Breeder seed was released

to SeCan Association in 1984 for further increase and distribution. A general release of seed is expected in 1985.

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