

## MEDORA DURUM WHEAT

Medora durum wheat (*Triticum turgidum* L.) was developed at the Agriculture Canada Research Station, Winnipeg from the cross Ward/Macoun. It is a medium short, strong-strawed cultivar, well adapted across the Prairie Provinces. Medora is resistant to prevalent races of leaf and stem rust, and bunt; it has excellent pasta-making quality.

Key words: Cultivar description, durum wheat, *Triticum turgidum* L.

[Blé dur Medora.]

Titre abrégé: Blé dur Medora.

Le blé dur Medora (*Triticum turgidum* L.) a été mis au point à la station de recherches d'Agriculture Canada à Winnipeg à partir d'un croisement de blé Ward et Macoun. Il s'agit d'un cultivar à tige forte et moyennement courte, bien adapté aux provinces des Prairies. Le blé Medora résiste aux principaux types de rouille s'attaquant aux feuilles et aux tiges et à la carie du blé; ses qualités conviennent parfaitement à la confection de pâtes alimentaires.

Mots clés: Description de cultivar, blé dur, *Triticum turgidum* L.

Medora durum wheat (*Triticum turgidum* L.) was developed at the Agriculture Canada Research Station, Winnipeg. It is a medium short, strong-strawed cultivar adapted across the Prairie Provinces. License no. 2248 was issued in May 1982.

### Pedigree and Breeding Method

Medora is a selection from the cross Ward/Macoun made in 1971. Ward, developed by North Dakota Agricultural Experiment Station, has good agronomic characteristics but lacks the strong gluten associated with good pasta-making quality. Macoun, a Canadian cultivar, was chosen for its strong straw and strong gluten characteristics.

The  $F_1$  was grown in the greenhouse in the spring of 1972, and subsequent generations were alternated between Glenlea, Manitoba and the winter nursery at Ciudad Obregon, Mexico.

The pedigree breeding method was used, with selection directed to developing a strong-strawed, disease-resistant, high-quality cultivar with good yield performance. Quality evaluation was initiated with  $F_4$  lines in 1973, and  $F_8$  lines from the cross entered yield trials in 1976. Prediction tests

for pigment content and gluten strength (micromixogram) were conducted by the quality unit, Research Station, Winnipeg on  $F_4$  to  $F_9$  lines. Subsequently, full-scale quality tests were conducted by the Grain Research Laboratory, Canadian Grain Commission, Winnipeg.

The line R.L. 7085, now designated as Medora, was entered in the Durum Wheat Cooperative Test in 1979. Special disease tests were conducted by plant pathologists at Winnipeg, Saskatoon, and Lethbridge.

### Cultivar Performance

Medora is well adapted across the Prairie Provinces. It has yielded 104.4 and 100.3% of Wascana, the highest yielding check cultivar, in the Black and Brown soil zones, respectively (Table 1). Medora is 1 d earlier than Wascana and 1 d later than Coulter. It is slightly taller than Coulter, but shorter than Wakooma or Wascana. It has better lodging resistance than all check cultivars. Medora, in common with the check cultivars, has good resistance to stem and leaf rust, bunt and Septoria leaf spot, and is susceptible to loose smut and tan spot (Table 2). Pasta-making quality is superior to Hercules because of its strong gluten and high spaghetti pigment content.

Table 1. Average yield and agronomic data for Medora and check cultivars in the Durum Wheat Cooperative Test 1979-1981, 1983

Entry	Yield (kg ha <sup>-1</sup> )		Maturity (d)	Lodging resistance rating†	Height (cm)	Test weight (kg hL <sup>-1</sup> )	1000-kernel wt (g)
	Black soils	Brown soils					
Hercules	3340	2540	98	2.0	86	80.2	45.6
Wakooma	3640	2880	101	3.2	91	79.2	42.0
Wascana	3660	2920	102	3.5	92	79.0	45.2
Coulter	3590	2680	100	2.1	84	79.6	42.3
Medora	3820	2930	100	1.6	87	80.2	43.6

†1 = best, 9 = worst.

Table 2. Average disease data for Medora and check cultivars Durum Wheat Cooperative Test 1979-1981, 1983

Entry	Reaction† to					Septoria leaf spot rating§	Root rot (%)	Kernel smudge (%)
	Stem rust 4‡	Leaf rust 4	Loose smut 2	Bunt 4	Tan spot 3			
Hercules	1VR	4MR	MS	R	MS	3	25	3.9
Wakooma	2VR	3MR	MS	R	MS	3	20	3.4
Wascana	1VR	3R	S	R	MS	3	29	5.6
Coulter	1VR	4R	HS	R	S	4	20	3.8
Medora	1VR	tR	HS	R	MS	3	20	4.8

†Percent infection and/or infection type.

‡Number of years.

§1 = resistant, 9 = susceptible.

### Characteristics

**SPIKE.** Fusiform, mid-dense; awned, awns white; glumes glabrous, white, mid-long, mid-wide, shoulders square to slightly elevated; beaks mid-wide, acuminate, short.

**KERNEL.** Medium amber, mid-size, mid-long to short, mid-wide, ovate; shoulder mid-deep, back slightly curved from germ to brush, base slightly incurved to straight; germ mid-size to large ovate; crease mid-wide, mid-deep; brush mid-size; cheeks angular.

**MATURITY.** Approximately 2 d later than Hercules.

**DISEASE REACTION.** Resistant to prevalent races of stem rust (*Puccinia graminis tritici*), leaf rust (*P. recondita*), and bunt (*Tilletia* spp.); susceptible to loose smut (*Ustilagotritici*) and tan spot (*Pyrenophora*

*trichostoma*); moderately resistant to kernel smudge and *Septoria* leaf spot and rootrot.

**PASTA QUALITY.** Superior to Hercules.

### Maintenance and Distribution of Pedigreed Seed Stocks

Breeders seed will be maintained by the Seed Section, Agriculture Canada, Indian Head, Saskatchewan. Distribution of pedigree seed stocks will be by SeCan Association, Suite 51-885 Meadowlands Drive, Ottawa, Ontario K2C 3N2.

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