CULTIVAR DESCRIPTION

Harvest hard red spring wheat

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Fox, S. L., Townley-Smith, T. F., Thomas, J. B., Humphreys, D. G., Brown, P. D., McCallum, B. D., Fetch, T. G., Menzies, J. G., Gilbert, J. A. Fernandez, M. R., Gaudet, D. A. and Noll, J. S. 2010. **Harvest hard red spring wheat**. Can. J. Plant Sci. **90**: 503–509. Harvest is a hard red spring wheat that meets the end-use quality specifications of the Canada Western Red Spring wheat class. Harvest is adapted to the wheat growing regions of the Canadian prairies based on data from the Central Bread Wheat Cooperative Registration Test conducted in 1998, 1999 and 2000 and grown in Manitoba and Saskatchewan. The overall grain yield of Harvest was significantly higher compared with the check cultivars Neepawa, Roblin, AC Majestic and AC Barrie, but yielded significantly less than the check cultivar McKenzie. Harvest matured similar to McKenzie and Neepawa, 1 d later than Roblin, 1 d earlier than AC Barrie and significantly earlier than AC Majestic. Harvest was significantly shorter than the check cultivars and had the lowest lodging scores. The test weight of Harvest was similar to McKenzie and AC Barrie and significantly higher than Neepawa, Roblin and AC Majestic. Harvest demonstrated moderate resistance to leaf rust and loose smut and very good resistance to stem rust. Resistance to common bunt was fair, similar to Neepawa and AC Barrie. Resistance to Fusarium head blight was similar to the susceptible check Roblin and poorer than the other checks. Harvest had very good preharvest sprouting resistance with lower sprouting scores than the best check in 2 of 3 years of testing, and it maintained its falling numbers after natural or artificial weathering of spikes. End-use quality tests indicated that Harvest was within the range of the checks for most end-use quality traits.

Key words: *Triticum aestivum* L., cultivar description, red spring wheat, sprouting resistance

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Mots clés: *Triticum aestivum* L., description de cultivar, blé roux vitreux de printemps, résistance à la germination sur pied

Harvest is a high-yielding, high test weight, preharvest sprouting resistant, hard red spring wheat (*Triticum aestivum* L.) cultivar developed by Agriculture and Agri-Food Canada (AAFC), Cereal Research Centre, Winnipeg, Manitoba, and released in 2001. It was given registration number 5508 by the Plant Variety Registration Office, Plant Production Division, Seed Section, Canadian Food Inspection Agency, Agriculture and

Agri-Food Canada, on 2002 Jun. 21. Granting of plant breeders rights (certificate 1864) was given on 2004 Aug. 20.

Harvest is adapted to the wheat-producing regions of the Prairies and meets the end-use quality characteristics of the Canada Western Red Spring (CWRS) wheat class.

Pedigree and Breeding Method

Harvest was selected from the cross AC Domain*2/ND640 made in 1991 at the Agriculture and Agri-Food Canada Cereal Research Centre, Winnipeg (Table 1). AC Domain (Townley-Smith and Czarnecki 2008) has preharvest sprouting resistance originating from the line RL4137. ND640 (also tested as BW155) derives from the cross Columbus/Butte, and Columbus (Neepawa*6/RL4137) also has a high level of sprouting resistance. BC_1F_2 spikes were screened for resistance to preharvest sprouting using a rain simulator (Humphreys and Noll 2002). Seed from the dormant spikes was grown in a greenhouse. From this, 516 F_4 lines were grown in 1993 in a field nursery and selected for agronomic traits including height and straw strength. The nursery was inoculated to allow for selection of disease resistance to leaf and stem rust caused by *Puccinia triticina* Eriks. and *P. graminis* Pers.:Pers. f. sp. *tritici* Eriks. & E. Henn., respectively. Selection for kernel appearance, grain protein concentration, flour yield and dough strength were carried out on lines retained from the field nursery. Following a winter nursery increase in 1993–1994 grown near Palmerston North (PN), New Zealand, approximately 7% of the F_4 lines were yield tested at the F_6 and selections made based on disease resistance and end-use quality. Approximately five spikes per F_6 line were selected and increased near PN. The line 91B14-BP2E$ was then evaluated in preregistration tests in 1995, 1996 and 1997 before being entered into the Central Bread Wheat Cooperative (CBWC) test in 1998, designated as BW259.

In the CBWC, agronomic performance was evaluated using a three-replicate rectangular lattice with 30 entries and grown at 10 locations/year (Manitoba: Glenlea, Portage La Prairie, Elgin, Morden, Brandon; Saskatchewan: Regina, Indian Head, Kelvington, Saskatoon, Melfort) operated by Agriculture and Agri-Food Canada (AAFC), AgriPro Wheat, and the University of Saskatchewan. For registration decisions regarding cultivar merit, Harvest was compared to five check cultivars: Neepawa (Campbell 1970), Roblin (Campbell and Czarnecki 1987), AC Majestic, McKenzie (Graf et al. 2003), and AC Barrie (McCaig et al. 1996). At the Cereal Research Centre, disease severity in artificially

Table 1. Population size and activities at each generation leading to the registration of Harvest hard red spring wheat

Name	Gen.	Year	Activity-Number of lines-Locations
	F_0	1991	Cross and backcross were made in a growth cabinet.
91B14	F_1	1991	24 BC_1F_1 plants were grown a growth cabinet.
91B14	F_2	1992	The progeny of each BC_1F_1 plant were grown in 0.5-m rows near Glenlea, MB. All spikes were harvested and screened for resistance to preharvest sprouting using a rain simulator (Humphreys and Noll 2002).
91B14-BP	F_3	1993	Five seeds were grown from 118 selected spikes in a growth cabinet.
91B14-BP2	F_4	1993	516 lines were grown in 1-m rows, near Glenlea. Selection for agronomics, seed appearance, resistance to leaf and stem rust, protein concentration, flour yield, and dough strength measured by mixograph.
91B14-BP2	F_5	1994	15 lines in Brawley, California, USA contra-season nursery and 43 lines in New Zealand winter nursery were grown in 1.5 m rows with selection for agronomic appearance.
91B14-BP2	F_6	1994	Yield tested 35 lines in a two-replicate experiment grown at two locations (MB: Glenlea, Portage la Prairie). Selection was based on agronomics, disease resistance and quality performance.
91B14-BP2E$	F_7	1995	Grew 61 headrows (3–5 spikes selected from 15 F_6 lines) in New Zealand winter nursery using 1.5-m rows with selection for agronomic appearance and resistance to leaf rust.
91B14-BP2E$	F_8	1995	Yield tested 41 lines in two-replicate experiments grown at two or three locations (MB: Glenlea, Portage la Prairie; SK: Swift Current). Selections based on agronomic, disease resistance and quality performance.
91B14-BP2E$	F_9	1996	Trialed 12 lines in the Central Bread Wheat "A1" test, 2 replicates at 5 locations (MB: Glenlea, Brandon: SK: Indian Head, Regina and Melfort).
RL4841	F_{10}	1997	Trialed 2 lines in the Central Bread Wheat "B" test, 3 replicates at 7 locations (MB: Glenlea, Brandon, Morden; SK: Indian Head, Regina, Melfort, Saskatoon).
BW259	F_{11-13}	1998–2000	Central Bread Wheat "C" registration test, 3 replicates at 10 locations (MB: Glenlea, Portage la Prairie, Brandon, Morden, Elgin; SK: Indian Head, Regina, Melfort, Kelvington, Saskatoon).
Breeder seed production			
BW259	F_{11}	1998	Breeder seed spikes: Approximately 250 random spikes were selected from a rogued increase plot grown at Indian Head, SK.
BW259	F_{12}	1999	Breeder seed isolation rows: 222 lines were harvested from 1-m rows that were grown near Glenlea with a 10 m isolation distance from any other wheat.
BW259	F_{13}	2000	Breeder seed rows: the 222 isolation rows were grown in 15-m rows at Indian Head, SK, with a 10-m isolation distance from other wheat. Fifteen lines were discarded prior to harvest due to lack of uniformity. The remaining 207 uniform plots were inspected and harvested in bulk producing 285 kg of breeder seed.

inoculated field nurseries was estimated for leaf rust and stem rust using the modified Cobb scale (Peterson et al. 1948). Several greenhouse evaluations were conducted to observe seedling infection type reactions to *P. triticina* races MBDS (12-3), MGBJ (74-2), TJBJ (77-2) and MBRJ (128-1) (McCallum and Seto-Goh 2006) and to *P. graminis* f. sp. *tritici* races TMRTK (C10), RKQSR (C63), TPMKR (C53) RTHJT (C57), QTHST (C25), RHTSK (C20) and TMRTF (C95) (Roelfs and Martens 1988; Fetch 2005). Fusarium head blight was evaluated in field nurseries that were spray inoculated with a macroconidial suspension and evaluated using a visual index (% incidence × % severity/100) (Gilbert and Woods 2006). Resistance to the disease loose smut caused by *Ustilago tritici* (Pers.) Rostr. was also estimated (Menzies et al. 2003). Evaluations for resistance to common bunt caused by *Tilletia tritici* (Bjerk.) R. Wolff and *T. laevis* Kuhn in Rabenh. (Gaudet and Puchalski 1989; Gaudet et al. 1993) were conducted at the Lethbridge Research Centre of AAFC. End-use quality of composite samples was evaluated by the Grain Research Laboratory, Canadian Grain Commission, Winnipeg, MB. Samples for each entry were composites from test locations that were selected based on the grading of check cultivars. Locations where the checks produced poor quality grain were not included in quality composites. Annual statistical analysis of experiments was conducted using Agrobase Generation II (Agronomix Software Inc. 2006). The SAS PROC MIXED procedure (SAS Institute, Inc. 2006) was used to perform a multiyear analysis. For agronomic data, a mixed model was used with environments and replications set as random variables and cultivars set as a fixed variable. Analysis of end-use quality data was similar except that there were no replicated observations within years.

Breeder Seed of Harvest was produced by randomly selecting approximately 250 spikes from a BW259 seed increase plot in 1998 that was rogued to uniformity in appearance. Selected spikes were grown as an isolated group of 1-m rows near Glenlea, MB, in 1999 and 222 lines were harvested. In 2000, these lines were grown as 15-m row plots at Indian Head, SK; 15 lines were discarded due to lack of uniformity. The remaining 207 uniform lines were inspected by the Canadian Food Inspection Agency and bulk harvested to produce 285 kg of breeder seed.

Performance

The overall grain yield for Harvest was significantly higher than the check cultivars except for McKenzie where Harvest was significantly lower in all 3 yr of testing in the Central Bread Wheat Cooperative test (Table 2). Harvest was about 2 d earlier maturing than AC Majestic, but similar in maturity to McKenzie and Neepawa (Table 3). Harvest was shorter than all of the check cultivars and also exhibited less lodging. Harvest was similar to McKenzie and AC Barrie for test weight and was significantly higher than the other cultivars. Kernel weight was in the range of the checks (Table 3).

Harvest has good resistance to the prevalent races of leaf rust and excellent resistance to stem rust. Harvest is moderately susceptible to common bunt and moderately resistant to loose smut (Table 4). Harvest has poor resistance to Fusarium head blight (FHB), similar to Roblin.

Assessments of preharvest sprouting resistance by exposure of spikes to weathering in a rain simulator and in the field (Humphreys and Noll 2002) demonstrated that Harvest tolerated weathering and maintained falling number. Harvest was similar to AC Majestic and tended to sprout less frequently than the other cultivars in most comparisons (Table 5).

The end-use quality of Harvest was suitable for the CWRS class, exhibiting milling and baking performance similar to the check cultivars (Table 6). Harvest had grain hardness similar to McKenzie, which is at the margin for acceptable grain hardness for this market class. For both Harvest and McKenzie, the harder grain was associated with higher starch damage and higher water absorption in both the farinograph and Canadian short process mixing characteristics (Table 6).

Table 2. Yield (kg ha^{-1}) of Harvest and five check cultivars in the Central Bread Wheat Coop, 1998–2000

	Manitoba[z]				Saskatchewan				All sites			
Cultivar	1998	1999	2000	Mean	1998	1999	2000	Mean	1998	1999	2000	Mean
Neepawa	32.9	31.7	39.3	34.2	36.1	39.0	35.9	37.0	34.5	35.3	37.4	35.7
Roblin	31.8	33.8	41.9	35.8	35.0	37.5	35.0	35.8	33.4	35.7	38.1	35.7
AC Majestic	36.8	33.3	46.1	38.2	39.2	40.1	39.2	39.5	38.0	36.7	42.2	39.0
McKenzie	41.7	46.6	49.3	45.5	40.9	45.3	45.0	43.7	41.3	46.0	46.9	44.7
AC Barrie	35.5	36.2	46.9	39.1	37.6	41.5	39.9	39.7	36.6	38.9	43.0	39.5
Harvest	39.4	42.0	50.3	43.4	41.0	41.7	39.3	40.7	40.2	41.8	44.1	42.0
LSD ($P=0.05$)[y]	5.0	4.0	3.7	2.2	2.6	4.0	3.3	2.4	2.0	2.0	2.0	2.3
No. of tests	5	5	4	14	5	5	5	15	10	10	9	29

[z]Manitoba test locations: Glenlea, Portage la Prairie, Brandon, Morden, Elgin; Saskatchewan test locations: Indian Head, Regina, Melfort, Kelvington, Saskatoon. In 2000, Brandon yield data were abandoned.
[y]LSD of means was based on the checks and Harvest and calculated using the SAS PROC MIXED procedure (SAS Institute, Inc. 2006).

Table 3. Summary of agronomic traits of Harvest and five check cultivars in the Central Bread Wheat Coop, 1998–2000

	Maturity (d)				Height (cm)				Lodging[z] (1–9 scale)				Test weight (kg hL^{-1})				Kernel weight (mg kernel^{-1})			
Cultivar	1998	1999	2000	Mean	1998	1999	2000	Mean	1998	1999	2000	Mean	1998	1999	2000	Mean	1998	1999	2000	Mean
Neepawa	91.0	96.0	98.4	93.8	100	108	103	104	3.8	3.0	2.9	3.2	79.1	77.4	75.2	77.1	33.4	30.7	27.9	30.6
Roblin	89.9	95.0	95.9	92.4	93	101	98	97	2.4	1.8	2.6	2.3	78.5	76.8	73.9	76.3	35.8	33.7	29.2	32.8
AC Majestic	92.4	98.5	100.6	95.9	94	101	100	98	2.6	2.1	2.5	2.4	80.1	77.4	76.7	77.9	35.1	31.9	29.9	32.1
McKenzie	92.0	96.7	97.7	94.3	95	100	100	98	3.5	3.2	2.6	3.1	80.7	79.6	77.5	79.2	34.2	32.4	29.9	32.1
AC Barrie	92.6	97.1	100.3	95.3	94	102	103	100	2.6	2.4	2.5	2.5	80.3	79.0	77.7	78.9	35.0	33.1	31.0	33.0
Harvest	91.3	95.9	98.8	94.0	91	95	96	94	2.0	1.4	1.7	1.7	80.9	79.1	77.2	79.0	34.5	32.9	30.3	32.6
LSD ($P=0.05$)	0.8	1.9	1.9	1.7	3.4	2.6	2.0	2.6	1.0	0.7	0.8	0.5	0.5	0.9	0.8	0.9	1.4	1.7	1.1	1.3
No. of tests	8	10	7	25	9	9	9	27	5	9	7	21	8	10	10	28	8	10	10	28

[z]Lodging scale: 1 = vertical, 9 = flat.

Table 4. Disease severities and ratings[z] of Harvest and five check cultivars in the Central Bread Wheat Coop, 1998–2000

	Stem rust[y] (% severity, rating)			Leaf rust[x] (% severity, rating)			Fusarium head blight index[w] (% incidence × % severity/100, rating)				Loose smut[v] (% infection, rating)			Common bunt[u] (% infection, rating)		
Cultivar	1998	1999	2000	1998	1999	2000	1997[t]	1998	1999	2000	1998	1999	2000	1998	1999	2000
Neepawa	3 R	5 RMR	Tr R	50 MR-S	60 MS	50 S		40	10.1	20 MR	0 R	0 R	0 R[s]	23 I	29 MS	22 I
Roblin	1 R	TR	0 R	5 M	10 MR	40 MS	61	70	61.9	42 S	18 MR	0 R[s]	9 R	39 S	39 S+	44 S
AC Majestic	1 R	TR	0 R	30 MRMS	40 MR	15 MRMS	55	34	13.1	24 I	43 MS	3 R	23 MR	8 R	8 MR	10 R
McKenzie	5 R	TR	0 R	T R	TR	TR R		39	18.0	30 I	33 MR	0 R[s]	38 I	3 R	2 R	0 VR
AC Barrie	5 R	5 R	0 R	30 MRMS	40 MRMS	20 MRMS		29	12.8	22 I	3 R	0 R[s]	3 R	16 IR	25 MS	39 S
Harvest	3 R	1 R	0 R	10 MR	5 R	10 MR	70	57	50.0	32 MS	17 MR[s]	17 MR[s]	0 R[s]	24 I	31 S	26 MS

[z]Disease rating class: VR = very resistant, R = resistant, RMR = resistant to moderately resistant, MR = moderately resistant; I = intermediate rating; MRMS = moderately resistant to moderately susceptible, MSS = moderately susceptible to susceptible, S = susceptible, Tr = trace amount of infection.
[y]Caused by *Puccinia graminis* Pers.:Pers. f. sp. *tritici* Eriks. E. Henn. Races used include TMRTK, RKQSR, TPMKR, QTHST, RHTSK and MCCFR.
[x]Caused by *P. triticina* Eriks. Inoculum was a composite of all leaf rust disease survey collections made the previous year from Manitoba and Saskatchewan (McCallum and Seto-Goh 2006).
[w]Caused by *Fusarium graminearum* Schwabe (teleomorph *Gibberella zeae* (Schwein.) Petch). Fusarium head blight index = (% infected spikelets × % infected spikes)/100.
[v]Caused by *Ustilago tritici* (Pers.) Rostr. Races used include T2, T9, T10 and T39. Rating based on previous and current tests after artificial inoculation.
[u]Caused by *Tilletia tritici* (Bjerk.) R. Wolff and *T. laevis* Kuhn in Rabenh. The inoculum used was a composite of races T-1, T-6, T-13, and T-19 of *T. tritici* and L-7 and L-16 of *T. laevis* mixed in a 1:1:1:1:2:2 ratio (vol/vol).
[t]Data from Central Bread Wheat "B" preregistration test.
[s]Loose smut assessment made on less than 10 plants.

Table 5. Falling numbers and sprouting scores of Harvest and five check cultivars in the Central Bread Wheat Coop, 1998–2000. Quality composite samples were created from grain harvested from 8, 7 and 8 locations for respective years

	Falling number (s)															
	Quality composite				Field weathered[z]				Artificially weathered[y]				Sprouting score[x] (1–9 scale)			
Cultivar	1998	1999	2000	Mean	1998	1999	2000	Mean	1998	1999	2000	Mean	1998	1999	2000	Mean
Neepawa	400	405	380	395	311	375	251	312	193	292	234	240	5.0	3.9	5.8	4.9
Roblin	395	370	250	338	86	321	99	169	167	153	135	152	8.4	8.4	7.8	8.2
AC Majestic	420	425	450	432	489	463	343	432	304	409	387	367	1.6	1.5	2.1	1.7
McKenzie	400	395	390	395	366	397	384	382	352	365	410	376	3.9	1.4	2.0	2.4
AC Barrie	410	405	385	400	302	426	216	315	391	340	367	366	6.1	4.0	5.4	5.2
Harvest	435	445	460	447	451	416	345	404	329	409	563	434	1.3	1.6	1.5	1.5
LSD ($P=0.05$)				60				108				103				1.3
Replicates	1	1	1	3	1	1	1	3	1	1	1	3	1	1	1	3

[z]Field weathered samples were harvested when declines in falling number were observed for the sprouting susceptible cultivar Roblin.
[y]Collected at maturity, this material was placed in a rain simulator at 15°C for 48 h, dried and then seed was ground into meal for falling number determination.
[x]((# spikes with 0 sprouts) $\times 1$+(# spikes with 1 sprout) $\times 2$+(# spikes with 2 sprouts) $\times 3$+(# spikes with 3–5 sprouts) $\times 5$+(# spikes with >3 sprouts) $\times 9$)/ total number of spikes evaluated. Spikes were collected at maturity and stored at –20°C until they were evaluated. The mean was calculated over the 3 yr of tests using SAS PROC MIXED procedure.

Table 6. Wheat and flour analytical data for Harvest and five check cultivars in the Central Bread Wheat Coop, 1998–2000. End-use quality testing was conducted by the Grain Research Laboratory of the Canadian Grain Commission on composite samples created from grain harvested from 8, 7 and 8 locations for respective years

												Farinograph 54–21[z]				Canadian short process (150 ppm ascorbic acid)[y]						
Cultivar	Test weight (kg hL^{-1})	Kernel weight (mg kernel^{-1})	Wheat protein[x] (%)	Flour protein[x] (%)	Falling Number (s) 56–81B	Amylograph (BU) 22–10	Flour yield (%) w	Flour ash (%) 08-01	Agtron Colour (%) 14–30	Starch damage (%) 76–31	Particle size index 55–30	Absorption (%)	Dough Development time (min)	Mixing tolerance index (BU)	Stability Index (min)	Loaf Volume (cm^3)	Loaf appearance	Crumb structure	Crumb Colour	Absorption (%)	Mixing energy (W-h kg^{-1})	Mixing time (min)
Neepawa	80.3	32.1	14.5	13.7	395	608	74.3	0.46	77	6.3	55	65.9	4.4	33	6.5	1147	8.0	5.9	7.9	69.3	10.1	7.4
Roblin	79.8	34.8	15.3	14.6	338	428	74.5	0.44	75	5.2	58	66.4	7.6	22	17.0	1150	7.7	6.2	8.0	70.7	15.5	12.6
AC Majestic	80.9	33.3	14.7	14.0	432	1042	75.6	0.44	75	6.3	53	66.9	5.1	37	6.3	1115	7.8	6.1	8.2	70.3	13.2	9.7
McKenzie	81.9	33.6	14.4	13.7	395	692	75.8	0.45	76	7.1	51	67.4	5.1	37	7.0	1072	7.7	6.1	8.1	71.3	11.8	9.3
AC Barrie	81.9	34.7	14.3	13.5	400	698	76.2	0.44	78	6.2	55	63.8	5.7	37	9.3	1115	7.7	6.2	8.0	68.0	13.1	10.2
Harvest	81.5	34.6	14.2	13.5	447	837	75.8	0.47	73	7.1	51	68.0	5.3	33	7.3	1073	7.6	6.1	8.1	71.3	12.1	9.3
LSD ($P=0.05$)[v]	0.8	1.5	0.3	0.3	60	217	0.6	0.03	3	0.4	2	1.1	0.8	6	3.8	30	0.3	0.2	0.2	1.8	3.0	1.6

[z]American Association of Cereal Chemists (2002).
[y]Preston et al. (1982)
[x]Williams et al. (1998)
[w]Dexter and Tipples (1987). All millings at the Canadian Grain Commission's Grain Research Laboratory (GRL) are performed in rooms with environmental control maintained at 21°C and at 60% relative humidity. Common wheat is milled on an Allis-Chalmers laboratory mill using the GRL sifter flow as described by Black et al. (1980). Flour yield is expressed as a percentage of cleaned wheat on a constant moisture basis.
[v]LSD of means was based on the checks and Harvest and calculated using the SAS proc-mixed procedure. Data consists of single measurements in each of the three years of testing.

Other Characteristics

Plant characteristics were evaluated for Plant Breeders Rights on experimental plots grown in 2001 and 2002 near Glenlea, MB.

Seedling Characteristics

Coleoptile colour. Red. Strong anthocyanin colouration.
Juvenile growth habit. Erect to semi-erect.
Seedling leaves. Slightly pubescent leaf sheaths and blades of lower leaves.

Adult Plant Characteristics

Growth habit. Semi-erect.
Leaves. Moderately recurved.
Flag leaf. Medium green with glabrous sheath and blade. The auricle colouration is slight, and auricle margins are glabrous. Leaf sheath has a slightly waxy bloom.
Flag leaf attitude. Drooping.
Upper culm internode. Slight curvature at maturity and slightly waxy. It is hollow stemmed and has a thin wall.
Culm colour. Slight glaucousity.
Maturity. Medium, 1.6 d later than Roblin, similar in maturity to Neepawa and McKenzie, and 1.3 and 1.9 d earlier than AC Barrie and AC Majestic, respectively (Table 3). The straw exhibits no anthocyanin colouration just prior to maturity and is white when plants are fully mature.
Plant height. This line is intermediate in height, but is 3–4 cm shorter than Roblin, AC Majestic and McKenzie (Table 3).
Lodging resistance. Good; better than the check cultivars (Table 3).

Spike Characteristics

Shape. Tapering.
Size. Similar to AC Domain.
Density. Dense.
Attitude. Erect.
Rachis. Sparse hairiness of convex surface of apical segment and strong pubescence of margins.
Colour. Slight glaucosity; white colour at maturity.
Awns. Awnless.

Spikelet Characteristics

Glumes. Medium length; medium width; lower glume is slightly pubescent; glume shoulders are oblique to rounded; wide shoulder width; glume beak is acute and of short length; sparse internal glume hairs. Glumes are white at maturity.
Lemma. Slightly to moderately curved beak shape.

Kernel Characteristics

Shape. CWRS; broad eliptical in shape with rounded to slightly angular cheeks.
Size. Small to medium-sized with short length and medium width.
Brush. Mid-long brush hairs.
Embryo. Medium-sized oval shape; crease is medium wide and medium deep.

Maintenance and Distribution of Pedigreed Seed Stocks

The Agriculture and Agri-Food Canada Experimental Farm, Indian Head, Saskatchewan, will maintain the Breeder Seed of Harvest. Multiplication and distribution of other classes of pedigreed seed will be handled by Secan, 501–300 March Road, Kanata, Ontario, Canada K2K 2E2.

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