



## APPLICATIONS UNDER EXAMINATION

## WHEAT

### WHEAT (*Triticum aestivum*)

**Proposed denomination:** 'CDC Alsask'  
**Application number:** 06-5417  
**Application date:** 2006/04/05  
**Applicant:** University of Saskatchewan, Saskatoon, Saskatchewan  
**Agent in Canada:** Viterra Inc., Saskatoon, Saskatchewan  
**Breeder:** Pierre Hucl, University of Saskatchewan, Saskatoon, Saskatchewan

Note: The applicant has requested an exemption from compulsory licensing to allow time to multiply and distribute propagating material of the variety. If the exemption is granted, it may be allowed for two years from the date rights are granted for the variety.

**Varieties used for comparison:** 'AC Barrie' and 'AC Elsa'

**Summary:** 'CDC Alsask' is taller at maturity than 'AC Barrie' and 'AC Elsa'. 'CDC Alsask' heads earlier than 'AC Elsa'. The awnlets on the spike of 'CDC Alsask' are longer than 'AC Barrie' and 'AC Elsa'. At maturity, the spike of 'CDC Alsask' is inclined while it is erect in both 'AC Barrie' and 'AC Elsa'. 'CDC Alsask' has better resistance to leaf rust than 'AC Barrie'.

#### Description:

**PLANT:** spring type, erect to semi-erect growth habit at the 5-9 tiller stage, glabrous blades of lower leaves, absent or very low to low frequency with recurved flag leaves, medium maturity, no anthocyanin colouration of the straw at maturity

**COLEOPTILE:** absent or very weak anthocyanin colouration

**FLAG LEAF:** absent or very weak to weak anthocyanin colouration of the auricles, medium glaucosity of the sheath, glabrous blade and sheath

**CULM:** medium glaucosity, straight at maturity, thin pith in cross section at maturity

**SPIKE:** absent or very weak to weak glaucosity, parallel sided shape, lax to medium density, awnlets present, white at maturity, white awns at maturity, incline attitude at maturity, absent or very sparse hairiness of convex surface of the apical rachis segment

**LOWER GLUME:** medium or medium to broad shoulder width, straight, medium length, medium width, glabrous, very sparse internal hairs, short straight beak

**LOWEST LEMMA:** straight beak

**KERNEL:** hard red type, medium red, small to medium size, medium length and width, oval, angular cheek, medium length brush hairs, medium sized germ, medium crease width, shallow to medium crease depth, medium to dark colouration with phenol

**QUALITY:** good for bread making

**DISEASE REACTION:** moderately susceptible to Fusarium Head Blight (*Fusarium graminearum*, *Fusarium* species), moderately susceptible to moderately resistant to Loose Smut (*Ustilago tritici*), moderately resistant to Common Bunt (*Tilletia caries*, *Tilletia foetida*), moderately resistant to resistant to Stem Rust (*Puccinia graminis* f. sp. *tritici*), resistant to Leaf Rust (*Puccinia recondita*)

**Origin and Breeding:** 'CDC Alsask' (experimental names BW301, W98332) was selected from the cross AC Elsa / AC Cora made in 1993 at the Crop Development Centre, Saskatoon, Saskatchewan. The F1 and F3 generations were grown in winter nurseries in New Zealand. The F2, F4 and F5 generations were grown in Western Canadian Nurseries where selection

was made for disease resistance, agronomic characteristics, and bread wheat quality traits. 'CDC Alsask' was derived from a bulked F5 row. It was evaluated as W98332 in preliminary yield trials in the 2000 Central Bread Wheat B Test. In 2001 to 2003, it was evaluated as BW301 in the Central Bread Wheat Cooperative Test.

**Tests and Trials:** Tests and trials were conducted during the summers of 2008 and 2009 in Watrous, Saskatchewan. Plots consisted of 4 rows with a row length of 4.8 meters and a row spacing of 17.8 centimeters. There were 3 replications arranged in an RCB design.

**Comparison table for 'CDC Alsask'**

	'CDC Alsask'	'AC Barrie'*	'AC Elsa'*
<i>Days to heading</i>			
mean 2008	60	61	63
mean 2009	65	66	67
<i>Awnlet length (cm)</i>			
mean 2008	1.49	0.75	0.69
std. deviation	0.68	0.37	0.48
mean 2009	1.03	0.49	0.63
std. deviation	0.51	0.23	0.30
<i>Plant height at maturity (including awns) (cm)</i>			
mean 2008	98.7	94.7	96.7
std. deviation	1.97	1.78	1.56
mean 2009	111	104	105
std. deviation	2.35	2.20	1.65

\*reference varieties



Wheat: 'CDC Alsask' (right) with reference varieties 'AC Barrie' (left) and 'AC Elsa' (centre)



Wheat: 'CDC Alsask' (left) with reference varieties 'AC Barrie' (centre) and 'AC Elsa' (right)



Wheat: 'CDC Alsask' (top) with reference varieties 'AC Barrie' (middle) and 'AC Elsa' (bottom)