



APPLICATIONS UNDER EXAMINATION

OAT

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(*Avena sativa*)

Proposed denomination: 'CDC Minstrel'
Application number: 08-6290
Application date: 2008/04/11
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Breeder: Brian Rossnagel, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'AC Assiniboia' and 'CDC Dancer'

Summary: 'CDC Minstrel' has sparser pubescence on the lower leaf sheath and blade than 'AC Assiniboia'. The frequency of plants with recurved/drooping flag leaves of 'CDC Minstrel' is less than in 'AC Assiniboia'. 'CDC Minstrel' has a narrower flag leaf than 'CDC Dancer'. The flag leaf of 'CDC Minstrel' is shorter than 'AC Assiniboia'. 'CDC Minstrel' has sparser pubescence/hairiness of the stem above and below the upper culm node than 'AC Assiniboia'. The plant height of 'CDC Minstrel' is shorter than 'AC Assiniboia' and 'CDC Dancer'. 'CDC Minstrel' has a shorter panicle than 'CDC Dancer'. The lowest panicle node of 'CDC Minstrel' has fewer hairs or spines than 'AC Assiniboia'. 'CDC Minstrel' has shorter grooves on the rachilla than 'CDC Dancer'. The pubescence on the rachilla of 'CDC Minstrel' is sparser than in 'AC Assiniboia'. 'CDC Minstrel' has a longer lower glume length than 'CDC Dancer'. 'CDC Minstrel' has basal hairs on the kernel while 'CDC Dancer' does not.

Description:

PLANT: hulled, spring type

SEEDLING: semi-erect to intermediate juvenile growth habit, medium to dense pubescence on the lower leaf sheath, medium to dense pubescence on lower leaf blade

LEAF: dark green, medium to dense pubescence on margins, medium glaucosity, low to medium frequency of plants with recurved flag leaves, medium to dense pubescence above and below the upper culm node

PANICLE: equilateral orientation, dense, semi-erect attitude of branches, 30 to 45 degree angle between rachis and dominant side branch, few to medium number of medium length hairs or spines on the lowest panicle node

SPIKELET: fracture separation, nodding attitude, two grains per

RACHILLA: medium to long length between primary and secondary floret, short to medium length grooves, very sparse to sparse pubescence

GLUME: medium glaucosity

LEMMA: white to yellow colour at maturity, sparse pubescence on lateral and dorsal surface, medium glaucosity observed at the green stage, medium overlap on palea, absent to very weak tendency to be awned

KERNEL: short basal hairs present, cream to yellow colour, pointed to rounded tip of scutellum, medium sized scutellum, medium to dense pubescence of the groat

REACTION TO DISEASES: resistant to Black Loose Smut (*Ustilago avenae*, races A13, 30, 617), moderately resistant to Stem Rust (*Puccinia graminis* f. sp. *avenae*, races NA8, 16, 25, 27, 28, 55, 67), susceptible to Barley Yellow Dwarf virus (BYDV), susceptible to Crown Rust (*Puccinia coronata*, races CR13, 200, 223, 225, 241, 244, 245)

AGRONOMY: good lodging resistance, sensitive to day-length

Origin and Breeding: 'CDC Minstrel' (experimental number OT3018) was developed using the pedigree breeding method at the Crop Development Centre of the University of Saskatchewan, Saskatoon, Saskatchewan. It originates from the cross OT293 x 'CDC Dancer' made in 1999. 'OT293' is an Agriculture & Agri-Food Canada, Cereal Research Centre, Winnipeg, Manitoba breeding line originating from the cross 91RAT20 x Dmt68, and 'CDC Dancer' is a cultivar developed by the Crop Development Centre originating from the cross OT344 x OT269. The F1-F4 generations were grown as bulks with the F1

and F3 generations grown in a winter nursery in New Zealand. 'CDC Minstrel' was selected as a single panicle from an F4 plant in the field in Saskatoon, Saskatchewan in 2001. Following that it was grown and selected as a single F5 hill plot in Saskatoon in 2002. The seed from this F5 hill plot was bulked as the line SO03191. It was tested in CDC yield trials in 2003 and 2004, followed by testing as OT3018 in the Western Canadian Oat Coop Trials in 2005 and 2006. Selection criteria included high grain and milling yield, strong straw, good kernel quality including grain plumpness and low groat oil and disease resistance.

Tests and Trials: Tests and trials occurred during the summers of 2007 and 2008 in Saskatoon, Saskatchewan. The plots consisted of 5 rows with a row length of 3.7 meters and a row spacing of 20 cm. There were 2 replicates arranged in an RCB design.

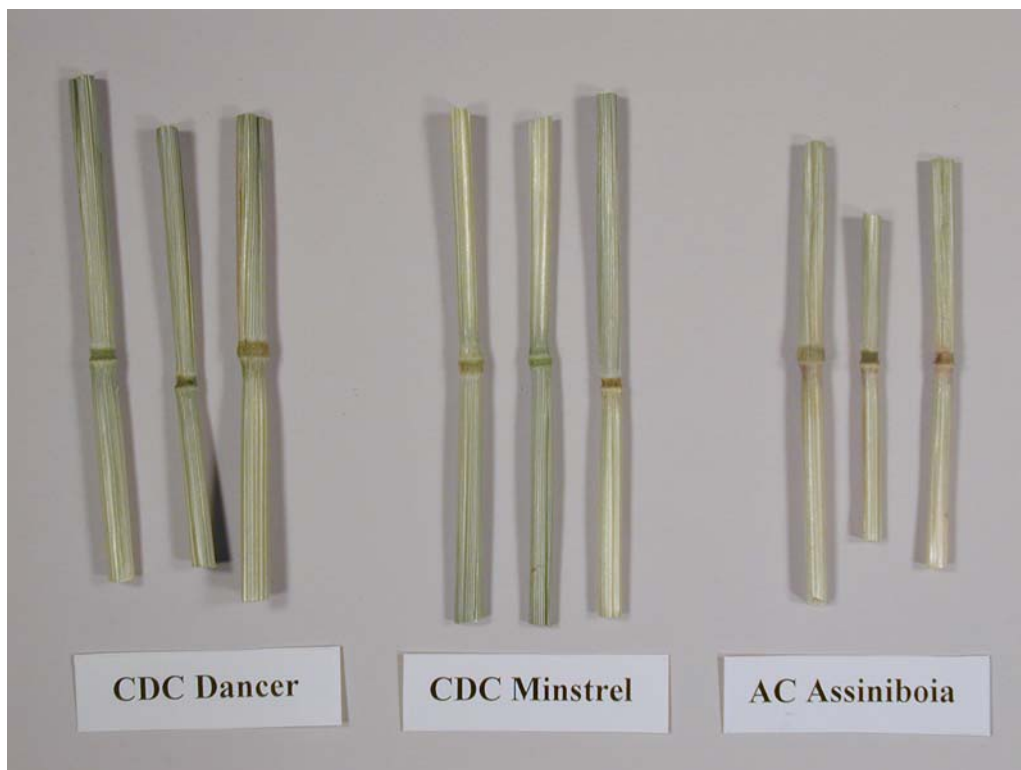
Comparison table for 'CDC Minstrel'

	'CDC Minstrel'	'AC Assiniboia'*	'CDC Dancer'*
<i>Flag leaf width (mm)</i>			
mean 2007	12.55	13.40	14.25
std. deviation	0.83	0.68	1.02
mean 2008	15.05	14.70	16.25
std. deviation	1.05	1.26	1.65
<i>Flag leaf length (cm)</i>			
mean 2007	16.33	19.72	16.84
std. deviation	2.07	2.75	2.21
mean 2008	19.95	23.22	21.79
std. deviation	2.24	3.36	2.99
<i>Plant height (cm)</i>			
mean 2007	102.80	109.50	111.70
std. deviation	3.55	3.12	3.69
mean 2008	93.00	100.40	101.65
std. deviation	2.68	2.48	2.78
<i>Panicle length (cm)</i>			
mean 2007	17.64	19.34	19.10
std. deviation	1.20	1.44	1.26
mean 2008	14.81	16.35	17.89
std. deviation	1.25	1.45	1.61
<i>Lower glume length (mm)</i>			
mean 2007	20.15	20.75	17.25
std. deviation	1.76	1.45	1.33
mean 2008	18.15	18.70	16.45
std. deviation	1.35	1.34	1.15

*reference varieties



Oat: 'CDC Minstrel' (centre) with reference varieties 'AC Assiniboia' (left) and 'CDC Dancer' (right)



Oat: 'CDC Minstrel' (centre) with reference varieties 'CDC Dancer' (left) and 'AC Assiniboia' (right)