BARLEY
(*Hodeum vulgare* L. sensu lato)

Proposed denomination: **'CDC Aurora Nijo'**
Previously proposed denomination: **'TR03903'**
Application number: 04-4424
Application date: 2004-09-27
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Breeder: Wataru Saito, Sapparo Breweries Ltd, Gumma Japan & Bryan Harvey, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'Harrington', 'CDC Kendall and 'CDC Copeland'

Summary: *'CDC Aurora Nijo' has a slightly shorter flag leaf than 'Harrington' and 'CDC Copeland'. The glaucosity of the flag leaf sheath of 'CDC Aurora Nijo' is weaker than in 'Harrington'. 'CDC Aurora Nijo' has weaker anthocyanin colouration of the auricles of the flag leaf than 'Harrington'. The tips of the lemma awns of 'CDC Aurora Nijo' have weaker anthocyanin colouration than 'Harrington'. 'CDC Aurora Nijo' has a slightly shorter spike than 'Harrington' but slightly longer than 'CDC Kendall' and 'CDC Copeland'. The plant height at the ripening stage of 'CDC Aurora Nijo' is shorter than in the reference varieties. 'CDC Aurora Nijo' has stronger anthocyanin colouration of the nerves of the lemma of the kernel than 'CDC Kendall'. The disposition of the lodicles of the kernel of 'CDC Aurora Nijo' are not as clasping as in 'CDC Copeland'. 'CDC Aurora Nijo' has incomplete horseshoe shaped basal markings of the kernel while in 'CDC Kendall' the basal markings of the kernel are horseshoe shaped. The lodging resistance of 'CDC Aurora Nijo' is better than in 'Harrington'.*

Description:
PLANT: erect juvenile growth habit, green coleoptile colour, very sparse to sparse pubescence on sheaths of the lower leaves at tillering, semi-erect plant growth habit at tillering, absent or very low frequency of plants with recurved flag leaves,

FLAG LEAF: medium pubescence on blade, medium glaucosity on the sheath at heading, very weak to weak pubescence of the sheath, weak to medium intensity of anthocyanin colouration of the auricles, very weak to weak pubescence on the auricle margins

SPIKE: mid-season emergence, platform-cup collar shape, medium to strong anthocyanin colouration on the tips of the lemma awns, erect to semi-erect attitude, medium glaucosity, parallel shape, medium to dense density, divergent sterile spikelet attitude, medium length of first segment of the rachis, strong curvature of first segment of the rachis, equal length of the glume relative to the grain of the median spikelet, awns longer than spike, rough barbs on the margins of the lemma awns

KERNEL: weak anthocyanin colouration of the nerves of lemma, whitish colour of the aleurone layer, husk present, mixed length of rachilla hair, weak to medium spiculation of inner lateral nerves of dorsal side of lemma, no hairiness of ventral furrow, medium to strong clasping of the lodicles, incomplete horseshoe shaped basal markings, medium to long length and width

AGRONOMY: good lodging resistance, good shattering resistance, fair to good tolerance to straw and neck breaking, fair resistance to drought, good malting quality

DISEASE RESISTANCE: susceptible to Septoria Speckled Leaf Blotch (*Septoria passerinii*), and Fusarium Head Blight

(*Fusarium graminearum* perfect state *Gibberella zeae*), moderately susceptible to Common Root Rot (*Cochliobolus sativus*, *Fusarium* spp.), Spot Blotch (*Cochliobolus sativus*), and Scald (*Rhynchosporium secalis*), moderately resistant to Stem Rust (*Puccina graminis*), Covered Smut (*Ustilago hordie*) and True Loose Smut (*Ustilago nuda*), resistant to Black Semi-loose Smut (*Ustilago nigra*)

Origin and Breeding: 'CDC Aurora Nijo' (TR03903) is a two row malting barley derived from the CDC Kendall/TR577 cross made in Guma, Japan in 1997. It was selected using a modified bulk-pedigree method based on disease resistance and malting quality. It was entered in the Western Cooperative 2 row Barley Test in 2003 and 2004. It was a first year entry in the 2004 collaborative malting test.

Tests and Trials: Test and trials were conducted in Saskatoon, Saskatchewan during the summers of 2004 and 2005. Plots consisted of 3 rows, 3.7 m in length, 4 treatments with 2 reps arranged in a RCB design.

Comparison table for 'CDC Aurora Nijo'

	'CDC Aurora Nijo'	**'Harrington'***	**'CDC Kendall'***	**'CDC Copeland'***
Flag Leaf length (cm)				
mean	11.33	13.04	12.46	13.86
std. deviation	3.29	2.47	2.88	1.92
Spike length (cm)				
mean	8.2	8.7	7.8	7.8
std. deviation	0.94	0.95	0.54	0.61
Plant height at ripening stage (cm)				
mean	82.95	92.4	97.83	98.18
std. deviation	4.65	6.39	10.94	10.22

* reference variety

Barley: 'CDC Aurora Nijo' (TR03903) (center) with reference varieties 'CDC Copeland' (left) and 'Harrington' (right)

Barley: 'CDC Aurora Nijo' (left) with reference varieties 'Harrington' (center) and 'CDC Copeland' (right)