



APPLICATIONS UNDER EXAMINATION

BARLEY

BARLEY (*Hordeum vulgare*)

Proposed denomination: 'CDC Austenson'
Application number: 09-6602
Application date: 2009/03/31
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Agent in Canada: Kelly Pickett, SeCan Association, Kanata, Ontario
Breeder: Brian Rossnagel, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'CDC Dolly' and 'Xena'

Summary: 'CDC Austenson' has medium to strong intensity of anthocyanin colouration on the auricles of the flag leaves while it is very strong in 'CDC Dolly' and 'Xena'. The flag leaves of 'CDC Austenson' are longer and wider than either of the reference varieties and has medium to dense pubescence while it is sparse to medium in 'CDC Dolly'. The tips of the lemma awns in 'CDC Austenson' have a medium to strong intensity of anthocyanin colouration while it is strong to very strong in 'CDC Dolly'. The anthocyanin colouration of the nerves of the kernel lemma of 'CDC Austenson' is medium to strong while it is strong to very strong for both reference varieties. 'CDC Austenson' is taller than 'CDC Dolly'. 'CDC Austenson' has a shorter first segment of the rachis with weaker curvature than 'Xena'. 'CDC Austenson' has a weak to medium spiculation of the inner lateral nerves of the dorsal side while it is absent to very weak in 'CDC Dolly'.

Description:

PLANT: two row, spring feed barley, semi-erect juvenile growth habit, absent or very sparse pubescence on the sheaths of the lower leaves

FLAG LEAF: medium frequency of plants with recurved flag leaves, medium to dense pubescence

FLAG LEAF SHEATH: strong to very strong glaucosity, very sparse to sparse pubescence

AURICLES: medium to strong anthocyanin colouration, sparse pubescence on the margins

SPIKE: mid-season to late spike emergence, mainly platform shaped collar, medium to strong anthocyanin colouration of the tips of the lemma awns, semi-erect attitude, strong glaucosity, parallel shape, medium to dense density, divergent attitude of sterile spikelet, the length of the glume and its awn of the median spikelet is equal relative to the grain

FIRST SEGMENT OF RACHIS: short to medium length, medium curvature

LEMMA AWNS: longer relative to the spike, rough spiculations from the tip to next to the kernel

KERNEL: medium to strong anthocyanin colouration of nerves of the lemma at beginning of ripening, whitish aleurone layer, husk present, short rachilla hair, weak to medium spiculation of inner lateral nerves of dorsal side of lemma, no hairiness on ventral furrow, clasping disposition of lodicules, horseshoe to incomplete horseshoe shape of basal markings, medium to long length, medium to wide width

DISEASE REACTION: very susceptible to True Loose Smut (*Ustilago nuda*), Scald (*Rhynchosporium secalis*), and Septoria Speckled Leaf Blotch (*Septoria passerinii*), moderately susceptible to Net Blotch (*Pyrenophora teres*), Stem Rust (*Puccinia graminis*), and Fusarium Head Blight (*Fusarium graminearum*; perfect state *Gibberella zeae*), moderately resistant to moderately susceptible to Common Root Rot (*Cochliobolus sativus*, *Fusarium* spp.), moderately resistant to Spot Blotch (*Cochliobolus sativus*), resistant to False Loose Smut, Black Semi-Loose Smut (*Ustilago nigra*) and Covered Smut (*Ustilago hordei*)

AGRONOMY: fair to good resistance to lodging, good resistance to shattering, good tolerance to straw breakage, fair to good tolerance to drought

Origin and Breeding: 'CDC Austenson' (experimental designations TR06389 and SB040372) was developed by the barley breeding program at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan using a pedigree breeding system. It arose from the cross TR358 / 94Ab12271 which was conducted under glass during the summer of 2000

in Saskatoon, Saskatchewan. The F1 thru F4 generations were grown as bulk populations where the F1 and F3 were grown in winter nurseries in New Zealand during the 2000/01 and 2001/02 seasons. The F4 was grown in a field at Saskatoon during the 2002 growing season. 'CDC Austenson' was grown and selected as a single F5 hill plot, was bulked as the line SB040372 and was tested in the University of Saskatchewan yield trials in 2004 and 2005. It was further tested as TR06389 in the Western Canadian Two-Row Cooperative Registration trials during the summers of 2006 and 2007. Selection criteria included high yield potential, improved straw strength, plant maturity, disease resistance and grain quality.

Tests and Trials: Tests and trials were conducted during the summers of 2008 and 2009 at the University of Saskatchewan, Saskatoon, Saskatchewan. Plots consisted of 5 rows with a row spacing of 0.2 meters and a row length of 3.66 meters. There were 2 replicates arranged in a RCB Design. Measured characteristics were based on a minimum of 20 measurements per variety per year.

Comparison table for 'CDC Austenson'

	'CDC Austenson'	'CDC Dolly'*	'Xena'*
<i>Flag leaf length (cm)</i>			
mean 2008	9.62	7.82	7.47
std. deviation	1.33	1.26	1.32
mean 2009	13.62	11.00	10.11
std. deviation	2.40	2.18	1.20
<i>Flag leaf width (mm)</i>			
mean 2008	7.60	6.20	6.30
std. deviation	0.82	0.62	0.80
mean 2009	8.85	6.15	6.75
std. deviation	2.18	1.39	1.02
<i>Plant height (cm)</i>			
mean 2008	81.1	71.4	79.2
std. deviation	3.75	3.00	2.80
mean 2009	84.80	79.55	85.45
std. deviation	2.33	4.63	2.50

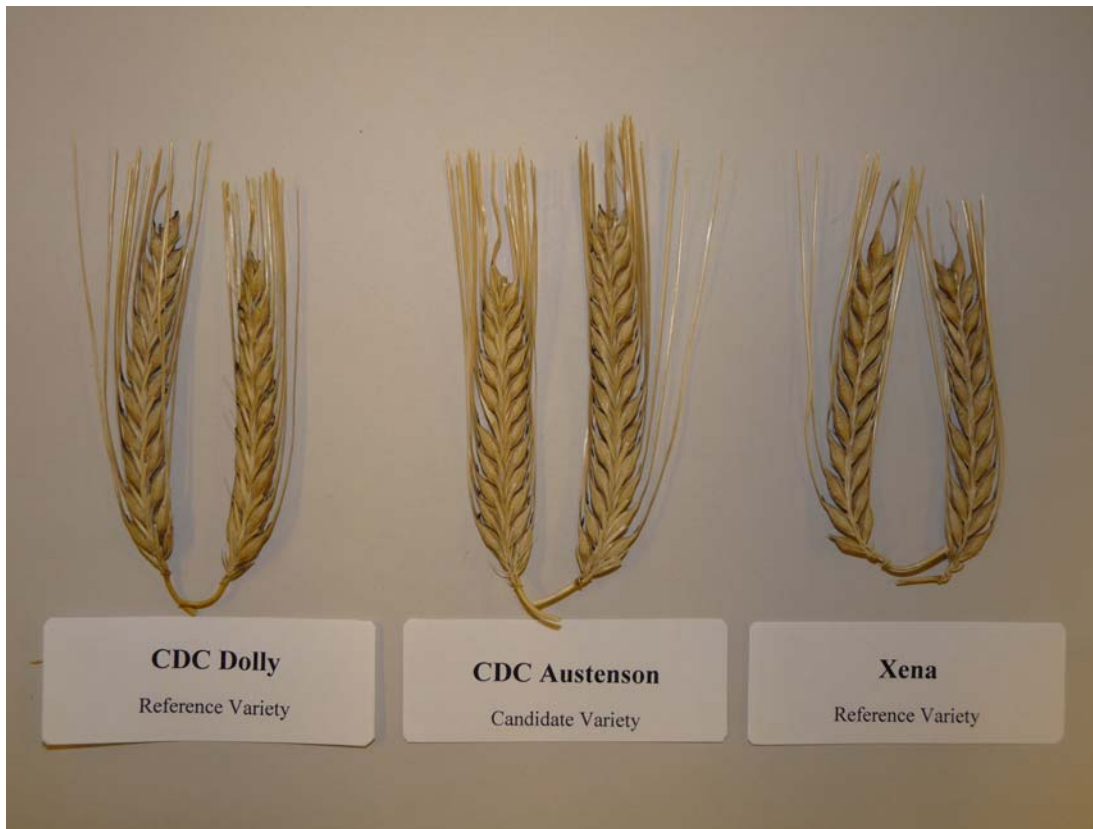
*reference varieties



Barley: 'CDC Austenson' (centre) with reference varieties 'CDC Dolly' (left) and 'Xena' (right)



Barley: 'CDC Austenson' (centre) with reference varieties 'CDC Dolly' (left) and 'Xena' (right)



Barley: 'CDC Austenson' (centre) with reference varieties 'CDC Dolly' (left) and 'Xena' (right)

Proposed denomination: 'CDC Carter'
Application number: 09-6563
Application date: 2009/03/20
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Agent in Canada: Kelly Pickett, SeCan Association, Kanata, Ontario
Breeder: Brian Rosnagel, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'CDC Freedom' and 'CDC McGwire'

Summary: 'CDC Carter' has a medium to strong intensity of anthocyanin colouration of the flag leaf auricles while it is strong in 'CDC Freedom'. The spike emergence of 'CDC Carter' tends to be later than 'CDC Freedom'. 'CDC Carter' has a strong to very strong intensity of anthocyanin colouration of the tips of the lemma awns while it is medium in 'CDC Freedom'. The lemma awns of 'CDC Carter' are rough whereas those in of 'CDC Freedom' are semi-smooth. The anthocyanin colouration of the nerves of the lemma of the kernel in 'CDC Carter' is strong while it is very weak to weak in 'CDC Freedom'. 'CDC Carter' has a shorter spike than 'CDC Freedom'. The spiculation of the inner lateral nerves of the dorsal side of the lemma of the kernel of 'CDC Carter' is very weak to weak while it is medium in 'CDC Freedom'. 'CDC Carter' has better resistance to the smuts, in particular True Loose Smut, than 'CDC McGwire' and 'CDC Freedom'.

Description:

PLANT: two row, spring hull-less feed barley, erect to semi-erect juvenile growth habit, very sparse to sparse pubescence on the sheaths of the lower leaves

FLAG LEAF: medium to high frequency of plants with recurved flag leaves, sparse to medium pubescence on blade,

FLAG LEAF SHEATH: strong glaucosity, sparse pubescence

AURICLES: medium to strong anthocyanin colouration, very sparse to sparse pubescence on the margins

SPIKE: mid-season to late spike emergence, v-shaped to platform shaped collar, strong to very strong anthocyanin colouration of the tips of the lemma awns, semi-erect attitude, medium to strong glaucosity, parallel shape, medium to dense density, mainly parallel to weakly divergent attitude of sterile spikelet, the length of the glume and its awn of the median spikelet is equal relative to the grain

FIRST SEGMENT OF RACHIS: medium length, weak to medium curvature

LEMMA AWNS: longer relative to the spike, rough spiculations from the tip to next to the kernel

KERNEL: strong anthocyanin colouration of nerves of the lemma at beginning of ripening, whitish aleurone layer, husk absent, long rachilla hair, very weak to weak spiculation of inner lateral nerves of dorsal side of lemma, no hairiness on ventral furrow, clasping disposition of lodicules, transverse crease to incomplete horseshoe shape of basal markings, medium to long length, medium to wide width

DISEASE REACTION: very susceptible to Common Root Rot (*Cochliobolus sativus*, *Fusarium* spp.) and Septoria Speckled Leaf Blotch (*Septoria passerinii*), susceptible to Scald (*Rhynchosporium secalis*), moderately susceptible to Spot Blotch (*Cochliobolus sativus*) and Stem Rust (*Puccinia graminis*), moderately resistant to moderately susceptible to Net Blotch (*Pyrenophora teres*) and Fusarium Head Blight (*Fusarium graminearum*; perfect state *Gibberella zeae*), resistant to False Loose Smut, Black Semi-Loose Smut (*Ustilago nigra*), Covered Smut (*Ustilago hordei*) and True Loose Smut (*Ustilago nuda*)

AGRONOMY: fair to good resistance to lodging, good resistance to shattering, good tolerance to straw breakage, fair to good tolerance to drought

Origin and Breeding: 'CDC Carter' (experimental designations HB390 and SH041245) was developed by the barley breeding program at the Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan. It arose from the cross (Q21861 x 'CDC McGwire') x (TR251 x 'CDC McGwire') conducted under glass during the summer of 2001 in Saskatoon, Saskatchewan with three subsequent backcrosses to 'CDC McGwire' made in 2002. The BC3F1 thru BC3F3 generations were developed using a pedigree breeding scenario with each generation of single plants grown under glass in Saskatoon, Saskatchewan with selection for resistance to both True Loose Smut and Covered Smut performed using molecular marker assisted selection (MMAS). The BC3F4 selected material was then increased in the field in Saskatoon, Saskatchewan and subjected to field smut screening. Harvested material was sent for increase to the winter nursery in New Zealand over the winter of 2004/2005. 'CDC Carter' was grown and selected as a single BC3F1 derived BC3F5 plot. Seed from that plot was bulked as the line SH041245 and was tested in the University of Saskatchewan yield trials in 2005. It was further tested as HB390 in the Western Canadian Hulless Barley Cooperative Registration trials during the summers of 2006 and 2007. Selection criteria included high yield potential, good kernel physical qualities, ease of threshing and disease resistance in particular resistance to True Loose smut and surface borne smuts.

Tests and Trials: Tests and trials were conducted during the summers of 2008 and 2009 at the University of Saskatchewan, Saskatoon, Saskatchewan. Plots consisted of 5 rows with a row spacing of 0.2 meters and a row length of 3.66 meters. There were 2 replicates arranged in a RCB Design. Measured characteristics were based on a minimum of 20 measurements per variety per year.

Comparison table for 'CDC Carter'

	'CDC Carter'	'CDC Freedom'*	'CDC McGwire'*
<i>Spike length (excluding awns) (cm)</i>			
mean 2008	8.87	9.94	8.55
std. deviation	0.59	0.73	0.54
mean 2009	8.11	9.25	7.52
std. deviation	0.63	0.94	0.52

*reference varieties



Barley: 'CDC Carter' (centre) with reference varieties 'CDC McGwire' (left) and 'CDC Freedom' (right)



Barley: 'CDC Carter' (centre) with reference varieties 'CDC Freedom' (left) and 'CDC McGwire' (right)

Proposed denomination: 'CDC Landis'
Application number: 08-6297
Application date: 2008/04/17
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Breeder: Brian Rossnagel, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'CDC Kendall' and 'AC Metcalfe'

Summary: 'CDC Landis' has a higher frequency of plants with recurved flag leaves than either 'CDC Kendall' or 'AC Metcalfe'. The flag leaf of 'CDC Landis' is longer than 'CDC Kendall'. The intensity of anthocyanin colouration of flag leaf auricles of 'CDC Landis' is strong while it is medium in 'AC Metcalfe'. 'CDC Landis' has a medium anthocyanin colouration of the nerves of the lemma of the kernel while it is very weak to weak in 'CDC Kendall'. The spiculation of the inner lateral nerves of the dorsal side of the kernel lemma of 'CDC Landis' is weak to medium while it is strong in 'CDC Kendall'.

Description:

PLANT: two row, spring malting barley, mainly semi-erect juvenile growth habit, absent or very sparse pubescence on the sheaths of the lower leaves

FLAG LEAF: medium to high frequency of plants with recurved flag leaves, medium to dense pubescence on blade

FLAG LEAF SHEATH: strong to very strong glaucosity, sparse pubescence

AURICLES: strong anthocyanin colouration, very sparse to sparse pubescence on the margins

SPIKE: mid-season to late spike emergence, v-shape to platform shaped collar, medium to strong anthocyanin colouration of the tips of the lemma awns, semi-erect attitude, strong glaucosity, parallel shape, medium to dense density, divergent attitude of sterile spikelet, the length of the glume and its awn of the median spikelet is equal relative to the grain

FIRST SEGMENT OF RACHIS: medium length, medium curvature

LEMMA AWNS: longer relative to the spike, rough spiculations from the tip to next to the kernel

KERNEL: medium anthocyanin colouration of nerves of the lemma at beginning of ripening, whitish aleurone layer, husk present, long rachilla hair, weak to medium spiculation of inner lateral nerves of dorsal side of lemma, no hairiness on ventral furrow, clasping disposition of lodicules, mainly incomplete horseshoe shape of basal markings, medium to long length, medium to wide width

DISEASE REACTION: very susceptible to Septoria Speckled Leaf Blotch (*Septoria passerinii*), Barley Yellow Dwarf Virus (BYDV), Scald (*Rhynchosporium secalis*) and True Loose Smut (*Ustilago nuda*), susceptible to Common Root Rot (*Cochliobolus sativus*, *Fusarium* spp.), moderately susceptible to Spot Blotch (*Cochliobolus sativus*), Net Blotch (*Pyrenophora teres*) and Stem Rust (*Puccinia graminis*), moderately resistant to Fusarium Head Blight (*Fusarium graminearum*; perfect state *Gibberella zeae*), Covered Smut (*Ustilago hordei*) and False Loose Smut, Black Semi-Loose Smut (*Ustilago nigra*)

AGRONOMY: good resistance to lodging, good resistance to shattering, good tolerance to straw breakage, fair to good tolerance to drought, good malting quality

Origin and Breeding: 'CDC Landis' (experimental designations 'SM03003' and 'TR05102') was developed by the barley breeding program at the Crop Development Centre (CDC), University of Saskatchewan, Saskatoon, Saskatchewan using a pedigree breeding system. It originates from the cross SM99310 / SM99391 made at the CDC in 2000. SM99310 is a CDC two row breeding line that originated from the cross BM9007-7 / SM94387. SM99391 is a CDC two row breeding line that originated from the cross TR573 / SM94314. The F1 and F2 generations were grown as bulk populations with the F1 grown in a winter nurseries in New Zealand. The F3 and F4 generations were grown as single seed derived lines during the winter of 2000 and 2001. 'CDC Landis' was then grown and selected in the field as a F5 row plot at Saskatoon in 2002. The seed from the F5 row plot was bulked as the line 'SM03003'. It was tested in the CDC yield trials in 2003 and 2004, followed by further testing in the Western Canadian Two-row Cooperative Trials as 'TR05102' during 2005 and 2006. Selection criteria included high yield potential, good straw strength, good kernel quality including test weight, kernel weight and grain plumpness, acceptable malting profile and resistance to net-blotch and stem rust.

Tests and Trials: Tests and trials were conducted during the summers of 2008 and 2009 at the University of Saskatchewan, Saskatoon, Saskatchewan. Plots consisted of 5 rows with a row spacing of 0.2 meters and a row length of 3.66 meters. There were 2 replicates arranged in a RCB Design. Measured characteristics were based on a minimum of 20 measurements per variety per year.

Comparison table for 'CDC Landis'

	'CDC Landis'	'CDC Kendall'*	'AC Metcalfe'*
<i>Flag leaf length (cm)</i>			
mean 2008	8.81	7.17	8.45
std. deviation	1.33	1.28	1.71
mean 2009	13.44	10.05	11.60
std. deviation	2.99	1.55	2.04

*reference varieties



Barley: 'CDC Landis' (centre) with reference varieties 'CDC Kendall' (left) and 'AC Metcalfe' (right)



Barley: 'CDC Landis' (centre) with reference varieties 'CDC Kendall' (left) and 'AC Metcalfe' (right)

Proposed denomination: 'CDC Meredith'
Application number: 08-6296
Application date: 2008/04/17
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Agent in Canada: Kelly Pickett, SeCan Association, Kanata, Ontario
Breeder: Brian Rossnagel, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'CDC Kendall' and 'AC Metcalfe'

Summary: 'CDC Meredith' has a higher frequency of plants with recurved flag leaves than 'CDC Kendall'. The auricles of the flag leaves of 'CDC Meredith' have a medium to strong intensity of anthocyanin colouration while it is strong in 'CDC Kendall'. Flag leaf pubescence of 'CDC Meredith' is sparse to medium while it is medium to dense in both 'CDC Kendall' or 'AC Metcalfe'. The tips of the lemma awns of 'CDC Meredith' have a strong intensity of anthocyanin colouration while it is medium in 'AC Metcalfe'. 'CDC Meredith' has medium spiculation of the inner lateral nerves of the dorsal side of the kernel lemma while it is strong in 'CDC Kendall'.

Description:

PLANT: two row, spring malting barley, mainly semi-erect juvenile growth habit, absent or very sparse pubescence on the sheaths of the lower leaves

FLAG LEAF: medium frequency of plants with recurved flag leaves, sparse to medium pubescence on blade

FLAG LEAF SHEATH: strong to very strong glaucosity, sparse pubescence

AURICLES: medium to strong anthocyanin colouration, very sparse to sparse pubescence on the margins

SPIKE: mid-season to late spike emergence, mainly platform shaped collar, strong anthocyanin colouration of the tips of the lemma awns, erect to semi-erect attitude, strong glaucosity, parallel shape, medium to dense density, mainly divergent attitude of sterile spikelet, the length of the glume and its awn of the median spikelet is equal relative to the grain

FIRST SEGMENT OF RACHIS: short to medium length, medium curvature

LEMMA AWNS: longer relative to the spike, rough spiculations from the tip to next to the kernel

KERNEL: very weak to medium anthocyanin colouration of nerves of the lemma at beginning of ripening, whitish aleurone layer, husk present, long rachilla hair, medium spiculation of inner lateral nerves of dorsal side of lemma, no hairiness on ventral furrow, clasping disposition of lodicules, horseshoe to incomplete horseshoe shape of basal markings, medium to long length, medium to wide width

DISEASE REACTION: very susceptible to Septoria Speckled Leaf Blotch (*Septoria passerinii*), Barley Yellow Dwarf Virus (BYDV), and Scald (*Rhynchosporium secalis*), susceptible to Spot Blotch (*Cochliobolus sativus*), moderately susceptible to Common Root Rot (*Cochliobolus sativus*, *Fusarium* spp.) and Net Blotch (*Pyrenophora teres*), moderately resistant to Stem Rust (*Puccinia graminis*), Fusarium Head Blight (*Fusarium graminearum*; perfect state *Gibberella zeae*), Covered Smut (*Ustilago hordei*) and False Loose Smut, Black Semi-Loose Smut (*Ustilago nigra*), resistant to True Loose Smut (*Ustilago nuda*)

AGRONOMY: fair resistance to lodging, good resistance to shattering, good tolerance to straw breakage, fair to good tolerance to drought, good malting quality

Origin and Breeding: 'CDC Meredith' (experimental designations 'SM03602' and 'TR05104') was developed by the barley breeding program at the Crop Development Centre (CDC), University of Saskatchewan, Saskatoon, Saskatchewan using a pedigree breeding system. It originates from the cross SM98427 / SM98787 made at the CDC in 1999. SM98427 is a CDC two row breeding line that originated from the cross BM8906-2 / SM93135. SM98787 is a CDC two row breeding line that originated from the cross BM8820-7 / SM93085. The F1 thru F4 generations were grown as bulk populations with the F1 and F3 grown in winter nurseries in New Zealand. 'CDC Meredith' was grown and selected as a single F4 derived F5 row plot at Saskatoon in 2002. The seed from the F5 row plot was bulked as the line 'SM03602'. It was tested in the CDC yield trials in 2003 and 2004, followed by further testing in the Western Canadian Two-row Cooperative Trials as 'TR05104' during 2005 and 2006. Selection criteria included high yield potential, good kernel quality including kernel weight and kernel plumpness, acceptable malting profile including low grain protein concentration and resistance to spotted net-blotch, stem rust and surface borne smuts.

Tests and Trials: Tests and trials were conducted during the summers of 2008 and 2009 at the University of Saskatchewan, Saskatoon, Saskatchewan. Plots consisted of 5 rows with a row spacing of 0.2 meters and a row length of 3.66 meters. There were 2 replicates arranged in a RCB Design. Measured characteristics were based on a minimum of 20 measurements per variety per year.



Barley: 'CDC Meredith' (centre) with reference varieties 'CDC Kendall' (left) and 'AC Metcalfe' (right)



Barley: 'CDC Meredith' (centre) with reference varieties 'CDC Kendall' (left) and 'AC Metcalfe' (right)

Proposed denomination: 'CDC Reserve'
Application number: 08-6295
Application date: 2008/04/17
Applicant: University of Saskatchewan, Saskatoon, Saskatchewan
Agent in Canada: Kelly Pickett, SeCan Association, Kanata, Ontario
Breeder: Brian Rossnagel, University of Saskatchewan, Saskatoon, Saskatchewan

Varieties used for comparison: 'CDC Kendall' and 'AC Metcalfe'

Summary: 'CDC Reserve' has a higher frequency of plants with recurved flag leaves than either 'CDC Kendall' or 'AC Metcalfe'. The auricles of the flag leaves of 'CDC Reserve' have a strong intensity of anthocyanin colouration while it is medium in 'AC Metcalfe'. 'CDC Reserve' has medium pubescence on the flag leaf while it is strong in 'AC Metcalfe'. The tips of the lemma awns of 'CDC Reserve' have a strong intensity of anthocyanin colouration while it is medium in 'AC Metcalfe'. 'CDC Reserve' has weak to medium anthocyanin colouration of the nerves of the lemma of the kernel while it is very weak to weak in 'CDC Kendall'.

Description:

PLANT: two row, spring malting barley, semi-erect to intermediate juvenile growth habit, very sparse to sparse pubescence on the sheaths of the lower leaves

FLAG LEAF: medium to high frequency of plants with recurved flag leaves, medium pubescence on blade

FLAG LEAF SHEATH: strong glaucosity, sparse pubescence

AURICLES: strong anthocyanin colouration, very sparse to sparse pubescence on the margins

SPIKE: mid-season to late spike emergence, v-shaped to cup shaped collar, strong intensity of anthocyanin colouration of the tips of the lemma awns, semi-erect attitude, strong glaucosity, parallel shape, dense density, divergent attitude of sterile spikelet, the length of the glume and its awn of the median spikelet is mainly equal relative to the grain

FIRST SEGMENT OF RACHIS: short to medium length, medium curvature

LEMMA AWNS: longer relative to the spike, rough spiculations from the tip to next to the kernel

KERNEL: weak to medium anthocyanin colouration of nerves of the lemma at beginning of ripening, whitish aleurone layer, husk present, long rachilla hair, medium to strong spiculation of inner lateral nerves of dorsal side of lemma, no hairiness on ventral furrow, clasping disposition of lodicules, horseshoe to incomplete horseshoe shape of basal markings, medium to long length, medium to wide width

DISEASE REACTION: very susceptible to True Loose Smut (*Ustilago nuda*), Stem Rust (*Puccinia graminis*), Septoria Speckled Leaf Blotch (*Septoria passerinii*), and Scald (*Rhynchosporium secalis*), susceptible to Fusarium Head Blight (*Fusarium graminearum*; perfect state *Gibberella zeae*), Covered Smut (*Ustilago hordei*), False Loose Smut, Black Semi-Loose Smut (*Ustilago nigra*), Spot Blotch (*Cochliobolus sativus*) and Net Blotch (*Pyrenophora teres*), moderately susceptible to Common Root Rot (*Cochliobolus sativus*, *Fusarium* spp.)

AGRONOMY: fair to good resistance to lodging, good resistance to shattering, good tolerance to straw breakage, fair to good tolerance to drought, good malting quality

Origin and Breeding: 'CDC Reserve' (experimental designations 'SM03374s' and TR05912) was developed by the Sapporo Breweries/ Crop Development Centre/ Prairie Malt Ltd. collaboration barley breeding program using a pedigree breeding system. It originates from the cross TR253 / H96034 // CDC Kendall made at Sapporo Breweries Ltd., Gumma, Japan in 1998. The F1 thru F5 generations were grown as bulk populations with the F1 and F2 grown in nurseries in Japan, the F3 grown in Saskatoon, Saskatchewan and the F4 grown in winter nurseries in New Zealand. 'CDC Reserve' was grown and selected as a single F5 derived F6 row plot at Saskatoon in 2002. The seed of that F6 row plot was bulked as the line 'SM03374s'. It was tested in Crop Development Centre yield trials in 2003 and 2004, followed by further testing in the Western Canadian Two-row Cooperative Trials as 'TR05912' during 2005 and 2006. Selection criteria included high yield potential, early to moderate maturity, grain quality including test weight, kernel weight and kernel plumpness and malt quality including water sensitivity.

Tests and Trials: Tests and trials were conducted during the summers of 2008 and 2009 at the University of Saskatchewan, Saskatoon, Saskatchewan. Plots consisted of 5 rows with a row spacing of 0.2 meters and a row length of 3.66 meters. There were 2 replicates arranged in a RCB Design. Measured characteristics were based on a minimum of 20 measurements per variety per year.



Barley: 'CDC Reserve' (centre) with reference varieties 'CDC Kendall' (left) and 'AC Metcalfe' (right)



Barley: 'CDC Reserve' (centre) with reference varieties 'CDC Kendall' (left) and 'AC Metcalfe' (right)