

Variety Name: Aarden

Crop: Winter Wheat

Breeder's Reference: SUR 97271/10

AFP No: 1/1573

Breeder: Saaten Union Recherche SARL

Translated from: German

Origin:

Date: 19 November 2003

Code: ARDN

Coleoptile-anthocyanin colouration:

medium

***Plant - growth habit:**

semi-prostrate to prostrate

***Time ear emergence:**

medium

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

absent or very low

***Flag leaf - Glaucosity of sheath:**

strong

Flag leaf - Glaucosity of leaf blade:

strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

strong to very strong

Hairiness of uppermost node:

***Plant - height:**

short

***Straw - wall thickness @ 20cms below ear:**

very thin

***Ear - Glaucosity:**

strong

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

white

***Ear - Shape (side profile):**

tapering

Ear - Length:

medium

***Ear - Density:**

medium

***Awns or scurs - presence:**

scurs present

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

short

***Awns at tip of ear - length:**

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

***Grain - colour:**

red

Grain - Shape:

Grain - Brush hair length in dorsal view:

medium

Grain - Colouration with phenol:

winter

***Seasonal type:**

Extra characters:

* = Characteristics which should always be included in the description of the variety.

06 May 2020

WINTER WHEAT

AEROBIC

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	medium to long
Density:	dense
Shape (side profile)	parallel sided
Awns or scurs - presence:	awns present
Awns or scurs - distribution:	
Awns or Scurs - length:	very long
Apical rachis segment - convex face hairiness:	weak
Anthers - anthocyanin	

Lower Glume

External surface roughness:	
Extent of internal hairs:	weak to medium - group 1 to 2
Beak length:	medium to long
Beak shape (curvature):	slightly curved
Shoulder	narrow
Shoulder	slightly sloping

Lower Lemma

Beak shape:

Grain

Colour	red
Colouration with phenol:	medium

Straw

Length:	short
Wall thickness @ 20cms below ear:	very thick

Glaucosity

Flag leaf - sheath:	weak to medium
Flag leaf - blade (lower side):	very weak to weak
Culm neck:	weak
Ear - Glaucosity:	absent or very weak

Plant growth characters

Coleoptile-anthocyanin	absent or very weak
Plant - growth habit:	semi-prostrate
Time ear emergence:	early
Flag leaf - Anthocyanin colouration of auricles:	

ALCHEMY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

AMBOISE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short
Wall thickness @20cms below ear	very thick or filled

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

AMBROSIA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

AMPLIFY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (2+)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

Variety Name: ANAPOLIS

Crop: Winter wheat

Breeder's Reference:

AFP No: 1/2148

Breeder: NORDSAAT

Translated from: German

Origin:

Date: 23 July 2013

Code: ANAP

Coleoptile-anthocyanin colouration:

Medium to strong

***Plant - growth habit:**

Semi prostrate

***Time ear emergence:**

Medium to late

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

Very low to low

***Flag leaf - Glaucosity of sheath:**

Strong to very strong

Flag leaf - Glaucosity of leaf blade:

Strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

Strong to very strong

Hairiness of uppermost node:

***Plant - height:**

Short to medium

***Straw - wall thickness @ 20cms below ear:**

Absent or very thin.

***Ear - Glaucosity:**

Strong to very strong

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

White

***Ear - Shape (side profile):**

Tapering

Ear - Length:

Medium

***Ear - Density:**

Lax to medium

***Awns or scurs - presence:**

Present

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

Very short to short

***Awns at tip of ear - length:**

Lower glume - Beak length:

Very short to short

Lower glume - Beak shape (curvature):

Slightly curved

Lower glume - Beak tip:

Lower glume - Shoulder width:

Narrow

Lower glume - Shoulder type:

Straight

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Medium

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Slightly curved

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Strong

***Grain - colour:**

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

Medium to dark

***Seasonal type:**

Winter

Extra characters:

* = Characteristics which should always be included in the description of the variety.

31 March 2015

ARARAT**CHARACTERS IN DETAIL****Ear**

Colour:	white
Length:	medium to long
Density:	lax
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	very weak to weak
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	medium - group 2
Beak length:	medium
Beak shape (curvature):	moderately curved
Shoulder	medium
Shoulder	elevated

Lower Lemma

Beak shape:	slightly curved
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Grain

Colour	red
Colouration with phenol:	medium

Straw

Length:	medium
Wall thickness @ 20cms below ear:	thin

Glaucosity

Flag leaf - sheath:	medium to strong
Flag leaf - blade (lower side):	medium to strong
Culm neck:	strong
Ear - Glaucosity:	strong to very strong

Plant growth characters

Coleoptile-anthocyanin	medium
Plant - growth habit:	intermediate to semi-prostrate
Time ear emergence:	medium
Flag leaf - Anthocyanin colouration of auricles:	absent or very weak

Variety Name: **Arkeos**

Crop:

Breeder's Reference:

AFP No:

Breeder: Nickerson International Research

Translated from:

Origin:

Date: 26 January 2015

Code: ARKE

Coleoptile-anthocyanin colouration:

Medium

***Plant - growth habit:**

Semi- prostrate to prostrate

***Time ear emergence:**

Early

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

***Flag leaf - Glaucosity of sheath:**

Strong to very strong

Flag leaf - Glaucosity of leaf blade:

Strong to very strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

***Plant - height:**

Short to medium

***Straw - wall thickness @ 20cms below ear:**

Very thin

***Ear - Glaucosity:**

Medium

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

White

***Ear - Shape (side profile):**

Ear - Length:

Long

***Ear - Density:**

Lax to medium

***Awns or scurs - presence:**

Present

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

Short to medium

***Awns at tip of ear - length:**

Lower glume - Beak length:

Short to medium

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Narrow

Lower glume - Shoulder type:

Straight to slightly sloping

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Medium to strong

Lower lemma - Beak shape:

Slightly curved

Lower lemma - Beak length-:

Short to medium

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Medium

***Grain - colour:**

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

Medium to dark

***Seasonal type:**

Winter

Extra characters:

* = Characteristics which should always be included in the description of the variety.

30 March 2015

ASTOUND**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	long
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elev. to strongly elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

AVATAR

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

Variety Name: **Axioma**

Crop: **Wheat**

Breeder's Reference: SEC 228-02-4

AFP No:

Breeder: Secobra Rechereches

Translated from: German

Origin:

Date: 19 November 2018

Code: Axio

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

Medium

Intermediate

Medium to late

Very low to low

Strong

Strong

Strong

Short to medium

Medium

Strong

Tapering

Short to medium

Dense

Scurs present

Very short to short

Short

Moderately curved

Narrow to medium

Straight

Weak

Red

Very dark

Winter

* = Characteristics which should always be included in the description of the variety.

20 March 2019

BAHAMAS CS**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

BANQUO**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

BARKSTON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

BATSMAN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

BATTALION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium - Group 2
Beak length	medium to long
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

BELENUS

CHARACTERS IN DETAIL

Ear

Colour:	coloured
Length:	short
Density:	medium
Shape (side profile)	parallel sided
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness:	weak
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	weak - group 1
Beak length:	very short
Beak shape (curvature):	slightly curved
Shoulder	narrow
Shoulder	slightly sloping

Lower Lemma

Beak shape:	slightly curved
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Grain

Colour	red
Colouration with phenol:	medium

Straw

Length:	short
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	weak
Flag leaf - blade (lower side):	absent or very weak
Culm neck:	absent or very weak
Ear - Glaucosity:	absent or very weak

Plant growth characters

Coleoptile-anthocyanin	absent or very weak
Plant - growth habit:	intermediate
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	absent or very weak

WINTER WHEAT

BELEPI

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	long to very long
Density:	medium
Shape (side profile)	parallel
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness:	weak
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	strong - group 3
Beak length:	
Beak shape (curvature):	
Shoulder	straight
Shoulder	

Lower Lemma

Beak shape:	straight to slightly curved
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Grain

Colour	red
Colouration with phenol:	dark to very dark

Straw

Length:	medium
Wall thickness @ 20cms below ear:	thin

Glaucosity

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	strong to very strong
Culm neck:	strong to very strong
Ear - Glaucosity:	strong to very strong

Plant growth characters

Coleoptile-anthocyanin	weak
Plant - growth habit:	intermediate to semi-prostrate
Time ear emergence:	medium
Flag leaf - Anthocyanin colouration of auricles:	

WINTER WHEAT

AFP 1/2293

BELGRADE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	strong (3)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

BELUGA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

BENNINGTON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

BISCAY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	very weak

BLACKSMITH**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	absent or very small
Anthers - anthocyanin colouration	present

Lower glume

External surface	smooth
Extent of internal hairs	weak (group 1)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	purple
Colouration with phenol	very dark

Straw

Length	medium to long
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

BOOMER

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	medium
Density:	medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	medium
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	strong -group 3
Beak length:	short
Beak shape (curvature):	moderately curved
Shoulder	narrow
Shoulder	elevated

Lower Lemma

Beak shape:

Grain

Colour	red
Colouration with phenol:	dark

Straw

Length:	short
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	strong
Culm neck:	strong
Ear - Glaucosity:	medium to strong

Plant growth characters

Coleoptile-anthocyanin	strong
Plant - growth habit:	semi-prostrate
Time ear emergence:	medium
Flag leaf - Anthocyanin colouration of auricles:	

BRIDGEHEAD**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

BRITANNIA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium (1+)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1502

BROMPTON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

BUTLER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (3)
Beak length	short
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

BYSTRA

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	short to medium
Density:	medium to dense
Shape (side profile)	parallel sided
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness:	strong
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	weak - group 1
Beak length:	very short
Beak shape (curvature):	slightly curved
Shoulder	narrow
Shoulder	slightly sloping

Lower Lemma

Beak shape:	slightly curved
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Grain

Colour	red
Colouration with phenol:	light to medium

Straw

Length:	short
Wall thickness @ 20cms below ear:	thin

Glaucosity

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	strong
Culm neck:	strong
Ear - Glaucosity:	medium to strong

Plant growth characters

Coleoptile-anthocyanin	weak
Plant - growth habit:	semi-erect
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	absent or very weak

CAMBRIDGE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

CASSIUS**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2795

CATALYST

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

Variety Name: **CELLULE**

Crop: Alternative Wheat

Breeder's Reference: fd08114/Cellule

AFP No:

Breeder: Florimond Desprez Veuve et Fils

Translated from:

Origin:

Date: 15 May 2018

Code: CELL

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

Very strong

Intermediate to semi prostrate

Early

Low

Very strong

Strong or very strong

Strong to very strong

Short to medium

Very thin

Strong to very strong

White

Parallel sided

Medium to long

Dense

Awns present

Very long

Short to medium

Slightly curved

Narrow or medium

Slightly sloping or straight

Weak to medium

Weak

Red

Medium

Alternative

* = Characteristics which should always be included in the description of the variety.

16 May 2018

CHAMPION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1827

CHEVRON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1980

CHILTON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	tip only
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

CHRONICLE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium to long
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	strongly elevated with 2nd pt.

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1070

CLAIRE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

COCOON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	strong - Group 3
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2486

COMOROS CS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

CONQUEROR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ¼
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

CONSORT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

CORDIALE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect
Time of ear emergence	very early to early
Flag leaf - anthocyanin of auricles	absent or very weak

CORONATION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ¼
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong - Group 2+
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

COSTELLO**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium (1+)
Beak length	short
Beak curvature	strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

COUGAR

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2210

CREEK

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	short
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	straight

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2009

CRUSOE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong - Group 2+
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	medium to broad
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

CUBANITA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1220

DEBEN

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

DELPHI**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong - Group 2+
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1895

DENMAN

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

DEXTER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	weak to medium
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2031

DICKENS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

DRUMLIN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

DUNSTON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

DUXFORD**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	strongly elevated with 2nd pt.

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

EDGAR

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	long
Density:	lax
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	weak to medium
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	weak - group 1
Beak length:	very short to short
Beak shape (curvature):	strongly curved
Shoulder	narrow
Shoulder	straight to elevated

Lower Lemma

Beak shape:

Grain

Colour	red
Colouration with phenol:	dark

Straw

Length:	medium
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	strong
Culm neck:	strong to very strong
Ear - Glaucosity:	medium to strong

Plant growth characters

Coleoptile-anthocyanin	very weak to weak
Plant - growth habit:	intermediate
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	

EDMUNDS**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	strong (3)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1376

EINSTEIN

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	short
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	medium

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	absent or very weak

ELABORATE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	weak to medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

ELATION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

ELICIT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak (group 1)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

ELOQUENCE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

ELWELL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

ELYSIUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	elev. to strongly elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

ENERGISE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

EVOLUTION

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

EXSEPT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	tip only
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1890

FAIRWAY

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	very short to short
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	
Extent of internal hairs	weak to medium (group 1+)
Beak length	short
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	slightly sloping

Lower lemma

Beak curvature	
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-prostrate to prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

FITZROY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium to broad
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	strong to very strong
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

FLORETT

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	short to medium
Density:	medium to dense
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness:	medium
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	weak to medium - group 1 to 2
Beak length:	very short to short
Beak shape (curvature):	moderately curved
Shoulder	narrow
Shoulder	slightly sloping to straight

Lower Lemma

Beak shape:

Grain

Colour	red
Colouration with phenol:	dark

Straw

Length:	short
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	weak to medium
Culm neck:	medium to strong
Ear - Glaucosity:	medium

Plant growth characters

Coleoptile-anthocyanin	absent or very weak
Plant - growth habit:	intermediate
Time ear emergence:	medium
Flag leaf - Anthocyanin colouration of auricles:	

FOREST**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	very thick or filled

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

FORZOR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	weak to medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

FREISTON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

Variety Name: **Frontal**

Crop:

Breeder's Reference:

AFP No:

Breeder:

Translated from: Dutch

Origin:

Date: 24 March 2015

Code: FRNT

Coleoptile-anthocyanin colouration:

Absent or very weak

***Plant - growth habit:**

Intermediate to semi prostrate

***Time ear emergence:**

Medium

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

Low to medium

***Flag leaf - Glaucosity of sheath:**

Strong to very strong

Flag leaf - Glaucosity of leaf blade:

Strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

Strong to very strong

Hairiness of uppermost node:

***Plant - height:**

Medium

***Straw - wall thickness @ 20cms below ear:**

Very thin

***Ear - Glaucosity:**

Strong to very strong

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

White

***Ear - Shape (side profile):**

Tapering

Ear - Length:

Short to medium

***Ear - Density:**

Medium to dense

***Awns or scurs - presence:**

Present

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

***Awns at tip of ear - length:**

Medium

Lower glume - Beak length:

Medium

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Medium

Lower glume - Shoulder type:

Elevated

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Moderately curved

Lower lemma - Beak length-:

Medium

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Medium to strong

***Grain - colour:**

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

Medium to dark

***Seasonal type:**

Winter

Extra characters:

* = Characteristics which should always be included in the description of the variety.

30 March 2015

FURLONG**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

GALLANT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	short - medium
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	straight
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

GARIBALDI**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	long
Beak curvature	strongly curved to geniculate
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

GEFION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

Variety Name: **Genius**

Crop: Winter Wheat

Breeder's Reference:

AFP No:

Breeder: Nordsaat Saatzeitgesellschaft

Translated from: German

Origin:

Date: 08 October 2010

Code: GENI

Coleoptile-anthocyanin colouration:

absent or very weak

*Plant - growth habit:

intermediate

*Time ear emergence:

medium

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

very low to low

*Flag leaf - Glaucosity of sheath:

strong

Flag leaf - Glaucosity of leaf blade:

medium to strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

medium to strong

Hairiness of uppermost node:

*Plant - height:

short to medium

*Straw - wall thickness @ 20cms below ear:

very thin

*Ear - Glaucosity:

weak to medium

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

white

*Ear - Shape (side profile):

tapering

Ear - Length:

medium to long

*Ear - Density:

lax to medium

*Awns or scurs - presence:

scurs present

Awns or scurs - distribution:

*Scurs at tip of ear - length:

short

*Awns at tip of ear - length:

Lower glume - Beak length:

short

Lower glume - Beak shape (curvature):

moderately curved

Lower glume - Beak tip:

Lower glume - Shoulder width:

narrow

Lower glume - Shoulder type:

straight to elevated

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

weak - group 1

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

strong

*Grain - colour:

red

Grain - Shape:

Grain - Brush hair length in dorsal view:

medium to dark

Grain - Colouration with phenol:

*Seasonal type:

winter

Extra characters:

* = Characteristics which should always be included in the description of the variety.

30 March 2015

WINTER WHEAT

AFP 1/1442

GLADIATOR

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	
Extent of internal hairs	medium - Group 2
Beak length	short
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	early
Flag leaf - anthocyanin of auricles	absent or very weak

GLASGOW**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	straight

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	very early to early
Flag leaf - anthocyanin of auricles	absent or very weak

GLEAM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	v.slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

GOLDENGUN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elev. to elev with 2nd point

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong to very strong
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1811

GRAFTON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	short to medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

Variety Name: Graham

Crop:

Breeder's Reference:

AFP No:

Breeder: Syngenta Seeds SAS

Translated from: French

Origin:

Date: 03 November 2014

Code: GRAH

Coleoptile-anthocyanin colouration:

***Plant - growth habit:**

***Time ear emergence:**

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

***Flag leaf - Glaucosity of sheath:**

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

***Plant - height:**

***Straw - wall thickness @ 20cms below ear:**

***Ear - Glaucosity:**

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

***Ear - Shape (side profile):**

Ear - Length:

***Ear - Density:**

***Awns or scurs - presence:**

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

***Awns at tip of ear - length:**

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

***Grain - colour:**

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

***Seasonal type:**

Extra characters:

Absent or very weak

Intermediate to semi prostrate

Medium to late

Strong to very strong

Strong to very strong

Short to medium

Very thin

Strong to very strong

White

Parallel sided

Long to very long

Medium to dense

Present

Very short

Short

Slightly curved

Narrow

Straight or elevated

Weak

Slightly curved

Short

Weak

Red

Medium

Winter

* = Characteristics which should always be included in the description of the variety.

31 March 2015

WINTER WHEAT

AFP 1/1940

GRAVITAS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

HAMPDEN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

HARDWICKE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	weak to medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

HAVANA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

HEREFORD**CHARACTERS IN DETAIL****Ear**

Colour:	white
Length:	short to medium
Density:	medium to dense
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or Scurs - length:	long to very long
Apical rachis segment - convex face hairiness:	strong
Anthers - anthocyanin	

Lower Glume

External surface roughness:	
Extent of internal hairs:	strong - group 3
Beak length:	medium
Beak shape (curvature):	strongly curved
Shoulder	medium
Shoulder	elevated

Lower Lemma

Beak shape:	strongly curved
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Grain

Colour	red
Colouration with phenol:	medium to dark

Straw

Length:	medium
Wall thickness @ 20cms below ear:	thin

Glaucosity

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	strong to very strong
Culm neck:	strong
Ear - Glaucosity:	strong

Plant growth characters

Coleoptile-anthocyanin	absent or very weak
Plant - growth habit:	intermediate
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	

WINTER WHEAT

AFP 1/736

HEREWARD

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	very short to short
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	slightly curved
Shoulder width	broad to very broad
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

HEROLDO

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	medium to long
Density:	medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	medium
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	strong - group 3
Beak length:	short to medium
Beak shape (curvature):	straight
Shoulder	narrow
Shoulder	straight to elevated

Lower Lemma

Beak shape:

Grain

Colour	white
Colouration with phenol:	light to medium

Straw

Length:	short to medium
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	strong to very strong
Culm neck:	strong to very strong
Ear - Glaucosity:	medium to strong

Plant growth characters

Coleoptile-anthocyanin	absent or very weak
Plant - growth habit:	semi-prostrate
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	

HORATIO**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper 1/2
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

HUMBER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	
Extent of internal hairs	medium - Group 2
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	medium to broad
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	

Variety Name: **Hybery**

Crop: Winter Wheat

Breeder's Reference: surh.3628-164

AFP No:

Breeder: Syngenta seeds Ltd

Translated from:

Origin:

Date: 15 May 2018

Code: HYBE

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

Weak

Intermediate to semi prostrate

Medium to late

Low to medium

Strong

Strong

Medium to strong

Short to medium

Very thin

Medium to strong

White

Parallel sided

Long

Medium to dense

Scurs present

Very short to short

Straight to slightly curved

Narrow

Straight

Weak to medium

Very weak

Red

Very dark

Winter

* = Characteristics which should always be included in the description of the variety.

16 May 2018

HYPERION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	short
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium (2)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	absent or very weak

Variety Name: HYTECK

Crop: Alternative Wheat

Breeder's Reference: hyteck

AFP No:

Breeder: Saaten Union Recherche

Translated from:

Origin:

Date: 15 May 2018

Code: HYTE

Coleoptile-anthocyanin colouration:

***Plant - growth habit:**

***Time ear emergence:**

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

***Flag leaf - Glaucosity of sheath:**

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

***Plant - height:**

***Straw - wall thickness @ 20cms below ear:**

***Ear - Glaucosity:**

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

***Ear - Shape (side profile):**

Ear - Length:

***Ear - Density:**

***Awns or scurs - presence:**

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

***Awns at tip of ear - length:**

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

***Grain - colour:**

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

***Seasonal type:**

Extra characters:

Very weak to weak

Intermediate to semi prostrate

Early to medium

Low

Strong to very strong

Medium to strong

Medium to strong

Short to medium

Thin to medium

Medium to strong

White

Parallel sided

Long to very long

Dense

Scurs present

Very short to short

Very short to short

Straight to slightly curved

Narrow

Sloping or slightly sloping

Weak

Very weak

Red

Dark to very dark

Alternative

* = Characteristics which should always be included in the description of the variety.

16 May 2018

ICEBREAKER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ¼
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

CHARACTERS IN DETAIL**Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

INVICTA

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	tip only
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

ISTABRAQ**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect
Time of ear emergence	very early to early
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1737

JB DIEGO

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	tip only
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	short
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

JELLCOE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

JORVIK**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	straight

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

JOYFUL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1765

KETCHUM

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ¼
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium to long
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KINGDOM

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	tip only
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	medium to long
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KINGFISHER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KIPLING**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense to very dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	
Culm - neck	medium
Ear	weak

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

KRIS

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	short to medium
Density:	medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	medium
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	strong - group 3
Beak length:	short to medium
Beak shape (curvature):	slightly curved
Shoulder	medium
Shoulder	straight to elevated

Lower Lemma

Beak shape:	slightly curved
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Grain

Colour	red
Colouration with phenol:	medium to dark

Straw

Length:	short
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	medium to strong
Culm neck:	strong
Ear - Glaucosity:	strong

Plant growth characters

Coleoptile-anthocyanin	medium to strong
Plant - growth habit:	semi-prostrate to prostrate
Time ear emergence:	late
Flag leaf - Anthocyanin colouration of auricles:	absent or very weak

WINTER WHEAT

AFP 1/2567

KWS ALABASTER

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	short
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	white
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	

KWS BARREL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (3)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

KWS BASSET**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

KWS BIELSUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS BONHAM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS BRIUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2766

KWS BURGHELEY

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS CASHEL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong
Beak length	medium to long
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	weak
Flag leaf- blade (lower side)	very weak to weak
Culm - neck	weak
Ear	weak

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

KWS CHILOE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns of scurs - distribution	whole length
Awns or scurs - length:	very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	long to very long
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	very light to light

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

KWS CLEVELAND**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ¼
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

Variety Name: **KWS COLOSSEUM**

Crop: Wheat

Breeder's KWS W370

AFP No:

Breeder: KWS UK LTD

Translated from:

Origin:

Date: 28 June 2021

Code: KCOL

Coleoptile-anthocyanin colouration:

***Plant - growth habit:**

***Time ear emergence:**

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

***Flag leaf - Glaucosity of sheath:**

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

***Plant - height:**

***Straw - wall thickness @ 20cms below ear:**

***Ear - Glaucosity:**

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

***Ear - Shape (side profile):**

Ear - Length:

***Ear - Density:**

***Awns or scurs - presence:**

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

***Awns at tip of ear - length:**

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

***Grain - colour:**

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

***Seasonal type:**

Extra characters:

Medium to strong

Intermediate to semi-prostrate

Medium to late

Low

Strong to very strong

Strong to very strong

Strong to very strong

Short to medium

Absent or very thin

Strong to very strong

White

Parallel sided

Medium

Medium to dense

Scur present

Medium to long

Medium

Slightly curved to moderately curved

Medium to broad

Slightly sloping to straight

Medium

Slightly curved to moderately curved

Strongly curved to geniculate

Medium

Red

Dark to very dark

Winter

* = Characteristics which should always be included in the description of the variety.

28 June 2021



04/05/2022 V1

WINTER WHEAT

AFP 1/2416

KWS CONROS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

KWS COYNE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

KWS CRANIUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS CRISPIN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

KWS CROFT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1976

KWS CROSBY

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2114

KWS DALI

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS DAWSUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2854

KWS DELUXUM

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS DINKUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS EVOKE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ¼
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

KWS EVOLVE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

KWS EXTASE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2421

KWS FENWAY

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	INVALID CHARACTER STATE!
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

KWS FIREFLY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

KWS FOXTUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	weak (group 1)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS FULCRUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1977

KWS GATOR

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS GIGANTUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS GUIUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2316

KWS HARLYN

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	medium (2)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

KWS HENUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	long
Beak curvature	strongly curved
Shoulder width	medium to broad
Shoulder shape	elev. to strongly elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS HORIZON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS JACKAL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS JUBILATION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS JUGUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2116

KWS KENTON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	weak to medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS KERANKUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong
Culm - neck	very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS KERRIN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	weak to medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

KWS KIELDER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium to long
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS KINETIC**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS KINNELLUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS LEON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium (1+)
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

KWS LILI**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1972

KWS LUMOS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

KWS LUTHER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1908

KWS MADRYN

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

KWS MCGUGUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	short to medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS MOJITO**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

Variety Name: **KWS Montana**

Crop: Winter wheat

Breeder's Reference: KW 8027-3-08

AFP No:

Breeder: KWS LOCHOW GMBH

Translated from: German

Origin:

Date: 22 March 2016

Code: KWMON

Coleoptile-anthocyanin colouration:

Medium

***Plant - growth habit:**

Semi prostrate

***Time ear emergence:**

Late

Flag leaf - Anthocyanin colouration of auricles:

Absent or very low

Frequency of plants with recurved flag leaves:

Strong

***Flag leaf - Glaucosity of sheath:**

Strong

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Strong to very strong

Hairiness of uppermost node:

***Plant - height:**

Short to medium

***Straw - wall thickness @ 20cms below ear:**

Absent or very thin

***Ear - Glaucosity:**

Strong

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

White

***Ear - Shape (side profile):**

Parallel sided

Ear - Length:

Medium

***Ear - Density:**

Medium

***Awns or scurs - presence:**

Scurs present

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

Very short

***Awns at tip of ear - length:**

Lower glume - Beak length:

Very short to short

Lower glume - Beak shape (curvature):

Straight to slightly curved

Lower glume - Beak tip:

Lower glume - Shoulder width:

Medium

Lower glume - Shoulder type:

Slightly sloping to straight

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Very weak to weak

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Strong to very strong

***Grain - colour:**

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

Medium to dark

***Seasonal type:**

Winter

Extra characters:

* = Characteristics which should always be included in the description of the variety.

23 March 2016



KWS MOZART**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

KWS PALLADIUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS PARKIN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	

Lower glume

External surface	entire external surface rough
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2856

KWS PLECTRUM

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	v.slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short
Wall thickness @20cms below ear	medium

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	very strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS PODIUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ¼
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2864

KWS RACKUM

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS ROADUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	small to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS ROWAN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

KWS SABRUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	absent or very weak

KWS SANTIAGO**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ¼
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1971

KWS SAXTEAD

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns of scurs - distribution	whole length
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	strong - Group 3
Beak length	long
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

KWS SCIMITAR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	broad
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

KWS SILVERSTONE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

KWS SILVUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2315

KWS SISKIN

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	weak to medium (1+)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

KWS SKOMER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	early
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1975

KWS SOLO

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS STERLING**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

KWS TARGET**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

KWS TEMPO**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	weak to medium
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

KWS TRINITY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

KWS TROMMEL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

KWS ULTIMATUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS WEBBUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS WRENUM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	large to very large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

KWS YARIS**CHARACTERS IN DETAIL****Ear**

Colour:	white
Length:	medium to long
Density:	medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness:	medium to strong
Anthers - anthocyanin colouration	

Lower Glume

External surface roughness:	
Extent of internal hairs:	strong - group 3
Beak length:	long
Beak shape (curvature):	strongly curved
Shoulder	medium
Shoulder	elevated

Lower Lemma

Beak shape:	strongly curved
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Grain

Colour	red
Colouration with phenol:	medium to dark

Straw

Length:	medium
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	very strong
Culm neck:	strong to very strong
Ear - Glaucosity:	strong to very strong

Plant growth characters

Coleoptile-anthocyanin	absent or very weak
Plant - growth habit:	semi-prostrate
Time ear emergence:	late
Flag leaf - Anthocyanin colouration of auricles:	

KWS ZENTARR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

KWS ZYATT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

LANCASTER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	weak to medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1756

LANGDALE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium (2)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LEAR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium to long
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2081

LEEDS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

LG ALDANITI**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	very small to small
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	long to very long
Beak curvature	moderate to strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated to strongly elevated

Lower lemma

Beak curvature	
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Grain

Colour	reddish
Colouration with phenol	very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thick or filled

Glaucosity

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	very weak

LG ASTRONOMER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

LG BLETCHLEY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium to long
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LG CASSIDY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LG DETROIT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LG FARRIER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	entire external surface rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong
Culm - neck	very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

LG GENERATION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

LG GILMORE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	tip only
Awns or scurs - length	very short to short
Apical rachis segment - convex face hairiness	large to very large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	very short to short
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	reddish
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate

LG GRADUATE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	long
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2810

LG ILLUMINATE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

LG INTERSTELLAR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LG JIGSAW**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

LG MEDUSA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	long
Beak curvature	strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	elev. to strongly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

LG MOTOWN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LG NASHVILLE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LG PHAROS**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2838

LG PRINCE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak (group 1)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

LG REDWALD**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	
Extent of internal hairs	strong (group 3)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	dark to very dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

LG RHYTHM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak (group 1)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LG SEEKER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

LG SUNDANCE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

LG SABERTOOTH**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	medium to long
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

LG SKYSCRAPER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

LG SPOTLIGHT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	weak (group 1)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

LG TAPESTRY

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

LG TICKET

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	whole internal surface covered
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

LG TYPHOON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	strong to very strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2836

LG QUASAR

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2909

LG VOODOO

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

Lion

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	small to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	horizontal to slightly elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	reddish
Colouration with phenol	dark to very dark

Straw

Length	
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2893

LOXTON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2538

LUSTRE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	short
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	white
Colouration with phenol	dark to very dark

Straw

Length	medium
Wall thickness @20cms below ear	very thick or filled

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

MAGISTER

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	medium
Density:	lax to medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness:	medium
Anthers - anthocyanin	

Lower Glume

External surface roughness:	
Extent of internal hairs:	weak to medium -group 1 to 2
Beak length:	short
Beak shape (curvature):	moderately curved
Shoulder	medium to broad
Shoulder	straight

Lower Lemma

Beak shape:

Grain

Colour	red
Colouration with phenol:	dark

Straw

Length:	medium to long
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	strong
Culm neck:	strong
Ear - Glaucosity:	medium to strong

Plant growth characters

Coleoptile-anthocyanin	weak
Plant - growth habit:	semi-prostrate
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	

MARIBOSS**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

Lower glume

External surface	
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	very weak to weak

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	early
Flag leaf - anthocyanin of auricles	

MARIS HUNTSMAN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium to long
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	long to very long
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	weak

MARIS WIDGEON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	very lax to lax
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak - Group 1
Beak length	medium
Beak curvature	v.slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very long
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	weak

Variety Name: **Marlowe**

Crop:

Breeder's Reference: Sj9726005

AFP No: 1/2413

Breeder: Senova Ltd

Translated from: Danish

Origin:

Date: 23 March 2017

Code: MARL

Coleoptile-anthocyanin colouration:

***Plant - growth habit:**

***Time ear emergence:**

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

***Flag leaf - Glaucosity of sheath:**

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

***Plant - height:**

***Straw - wall thickness @ 20cms below ear:**

***Ear - Glaucosity:**

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

***Ear - Shape (side profile):**

Ear - Length:

***Ear - Density:**

***Awns or scurs - presence:**

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

***Awns at tip of ear - length:**

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

***Grain - colour:**

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

***Seasonal type:**

Extra characters:

Weak to medium

Semi prostrate

Late

Medium to high

Strong

Strong

Strong

Medium

Absent or very thin

Strong

White

Parallel

Short to medium

Dense to very dense

Scurs present

Medium

Medium

Long

Strongly curved

Long

Medium

Elevated

Strong

Moderately curved to strongly curved

Medium

Red

Light to medium

Winter

* = Characteristics which should always be included in the description of the variety.

28 March 2017

WINTER WHEAT

AFP 1/2380

MARSTON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	strongly curved to geniculate
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

Variety Name: **Maurizio**

Crop: Winter Wheat

Breeder's Reference: SZD 6374

AFP No:

Breeder: Saatzucht Donau GmbH

Translated from: Hungarian

Origin:

Date: 19 November 2018

Code: IZIO

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

Absent or very weak

Intermediate

Early to medium

Very low to low.

Strong

Medium to strong

Very strong to strong

Thin

Strong

White

Parallel

Short to medium

Lax to medium

Awns present

Long

Short

Moderately curved

Medium

Sloping to slightly sloping

Weak

Red

Medium to dark

Winter

* = Characteristics which should always be included in the description of the variety.

19 March 2019

MAXWELL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	very long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	strongly elevated with 2nd pt. present

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	very thick or filled

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	very weak to weak

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very early
Flag leaf - anthocyanin of auricles	

MAYFLOWER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	short to medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong to very strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

MERIT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

MINDFUL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	small to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	short
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	horizontal to slightly elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2464

MONROE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2022

MONTEREY

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

Variety Name: **MORTIMER**

Crop: Winter Wheat

Breeder's Reference: SC 2405

AFP No:

Breeder: Secobra

Translated from:

Origin:

Date: 15 May 2018

Code: MORT

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

Absent or very weak

Semi prostrate

Medium

Very low or low

Strong

Strong to very strong

Strong

Short

Absent or very thin

Medium to strong

White

Parallel

Long

Lax to medium

Present

Short to medium

Short

Straight to slightly curved

Narrow to medium

Very weak to weak

Weak to medium

Red

Medium

Winter

* = Characteristics which should always be included in the description of the variety.

16 May 2018

MOSAIC**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

Variety Name: **Moschus**

Crop: Winter whrat

Breeder's Reference: STRU 114017

AFP No:

Breeder: Dr Hermann Strube

Translated from: German

Origin:

Date: 19 November 2018

Code: MOSC

Coleoptile-anthocyanin colouration:

Strong to very strong

***Plant - growth habit:**

Intermediate

***Time ear emergence:**

Medium to late

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

Low to medium

***Flag leaf - Glaucosity of sheath:**

Strong to very strong

Flag leaf - Glaucosity of leaf blade:

Strong to very strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

Strong to very strong

Hairiness of uppermost node:

***Plant - height:**

Medium

***Straw - wall thickness @ 20cms below ear:**

Absent or very thin

***Ear - Glaucosity:**

Strong

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

***Ear - Shape (side profile):**

Tapering

Ear - Length:

Medium to long

***Ear - Density:**

Lax to medium

***Awns or scurs - presence:**

Scurs present

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

Very short to short

***Awns at tip of ear - length:**

Lower glume - Beak length:

Short

Lower glume - Beak shape (curvature):

Slightly to moderately curved

Lower glume - Beak tip:

Lower glume - Shoulder width:

Narrow to medium

Lower glume - Shoulder type:

Straight

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Weak

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Medium to strong

***Grain - colour:**

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

Medium

***Seasonal type:**

Winter

Extra characters:

* = Characteristics which should always be included in the description of the variety.

19 March 2019

MOULTON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

MV FREDERICA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	long to very long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

MYRIAD**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

MYSTIC CS**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1192

NELSON

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1658

OAKLEY

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong - Group 2+
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

OLIVIN

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	medium
Density:	medium
Shape (side profile)	parallel sided
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	medium to strong
Anthers - anthocyanin	

Lower Glume

External surface roughness:	
Extent of internal hairs:	medium - group 2
Beak length:	very short to short
Beak shape (curvature):	strongly curved
Shoulder	narrow to medium
Shoulder	slightly sloping to straight

Lower Lemma

Beak shape:	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol:	medium to dark

Straw

Length:	medium to long
Wall thickness @ 20cms below ear:	thin

Glaucosity

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	medium
Culm neck:	medium
Ear - Glaucosity:	medium to strong

Plant growth characters

Coleoptile-anthocyanin	strong to very strong
Plant - growth habit:	intermediate to semi-prostrate
Time ear emergence:	late
Flag leaf - Anthocyanin colouration of auricles:	absent or very weak

OLYMPUS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

Variety Name: **Opus**

Crop: Winter Wheat

Breeder's Reference: PBIS 99/70

AFP No:

Breeder: Erhardt Eger

Translated from: German

Origin:

Date: 23 November 2001

Code: OPUS

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

absent or very weak

intermediate to semi-prostrate

medium to late

absent or very weak

very low to low

strong

medium to strong

strong

medium

very thin

medium

white

tapering

medium

medium

scurs present

short

winter

* = Characteristics which should always be included in the description of the variety.

06 May 2020

ORATOR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	medium to long
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium to strong
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

ORBIT

CHARACTERS IN DETAIL

Ear

Colour	white
Length	long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

OSMIUM

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	weak (group 1)
Beak length	short
Beak curvature	v.slightly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

CHARACTERS IN DETAIL**Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2157

PANACEA

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

PANORAMA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

PHILOSOPHER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

PIRENEO

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	medium
Density:	medium to dense
Shape (side profile)	tapering
Awns or scurs - presence:	awns present
Awns or scurs - distribution:	
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness:	medium
Anthers - anthocyanin	

Lower Glume

External surface roughness:	
Extent of internal hairs:	medium - group 2
Beak length:	long to very long
Beak shape (curvature):	slightly curved
Shoulder	narrow
Shoulder	straight

Lower Lemma

Beak shape:

Grain

Colour	red
Colouration with phenol:	medium

Straw

Length:	medium
Wall thickness @ 20cms below ear:	thin

Glaucosity

Flag leaf - sheath:	weak
Flag leaf - blade (lower side):	very weak to weak
Culm neck:	weak to medium
Ear - Glaucosity:	weak

Plant growth characters

Coleoptile-anthocyanin	
Plant - growth habit:	intermediate
Time ear emergence:	early to late
Flag leaf - Anthocyanin colouration of auricles:	

Variety Name: **PONTICUS**

Crop: Winter Wheat

Breeder's Reference: STRU 114010

AFP No:

Breeder: Dr Hermann Strube

Translated from: German

Origin:

Date: 14 November 2017

Code: PONT

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

Strong

Intermediate to semi-prostrate

Medium to late

Very low to low

Very strong

Very strong

Very strong

Strong to medium

Absent or very thin

Strong

White

Tapering

Medium to long

Lax

Scurs present

Very short to short

Very short to short

Narrow to medium

Slightly sloping

Weak

Medium

Red

Medium

Winter

* = Characteristics which should always be included in the description of the variety.

28 March 2018

Variety Name: **PRAKTIK**

Crop:

Breeder's Reference:

AFP No: 1/

Breeder: RAGT

Translated from:

Origin: GERMANY

Date: 22 October 2012

Code: PRAK

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

ABSENT OR VERY WEAK

INTERMEDIATE TO SEMI-PROSTRATE

MEDIUM TO LATE

ABSENT OR VERY LOW

MEDIUM

MEDIUM

MEDIUM TO STRONG

SHORT

very thin

MEDIUM

WHITE

TAPERING

SHORT TO MEDIUM

MEDIUM

SCURS PRESENT

VERY SHORT TO SHORT

VERY SHORT TO SHORT

STRAIGHT

SLIGHTLY CURVED

NARROW TO MEDIUM

MEDIUM

MEDIUM

RED

DARK

WINTER TYPE

STRAW: PILTH IN CROSS SECTION -

VERY THIN

* = Characteristics which should always be included in the description of the variety.

30 March 2015

CHARACTERS IN DETAIL**Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong - Group 2+
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	medium

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

CHARACTERS IN DETAIL**Ear**

Colour:	white
Length:	short to medium
Density:	medium to dense
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness:	weak to medium
Anthers - anthocyanin	

Lower Glume

External surface roughness:	medium
Extent of internal hairs:	medium - group 2
Beak length:	medium
Beak shape (curvature):	moderately curved
Shoulder	broad
Shoulder	elevated

Lower Lemma

Beak shape:	moderately curved to strongly curved
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Grain

Colour	red
Colouration with phenol:	medium to dark

Straw

Length:	short to medium
Wall thickness @ 20cms below ear:	thin

Glaucosity

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	medium to strong
Culm neck:	weak
Ear - Glaucosity:	medium

Plant growth characters

Coleoptile-anthocyanin	medium
Plant - growth habit:	intermediate
Time ear emergence:	medium
Flag leaf - Anthocyanin colouration of auricles:	

RAMSAY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	short
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

RAPSODIA

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	short to medium
Density:	medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	weak to medium
Anthers - anthocyanin	

Lower Glume

External surface roughness:	smooth
Extent of internal hairs:	medium to strong - group 2 to 3
Beak length:	short
Beak shape (curvature):	moderately curved
Shoulder	medium
Shoulder	straight

Lower Lemma

Beak shape:	slightly curved
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Grain

Colour	red
Colouration with phenol:	medium

Straw

Length:	short
Wall thickness @ 20cms below ear:	very thin to thin

Glaucosity

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	medium to strong
Culm neck:	medium to strong
Ear - Glaucosity:	medium to strong

Plant growth characters

Coleoptile-anthocyanin	strong
Plant - growth habit:	semi-prostrate to prostrate
Time ear emergence:	medium
Flag leaf - Anthocyanin colouration of auricles:	absent or very weak

RAZZANO**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs – distribution	
Awns or scurs - length:	very short
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	
Extent of internal hairs	medium to strong - Group 2+
Beak length	short
Beak curvature	v.slightly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

REFLECTION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

RELAY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

REVELATION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ¼
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

RGT ADVENTURE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

RGT ANELLE**CHARACTERS IN DETAIL****Ear**

Colour	coloured
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	very short to short
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong to very strong
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT BAIRSTOW**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	very strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT BLOSSOM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

RGT BOWEN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

RGT COOK**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	strong to whole surface
Beak length	long to very long
Beak curvature	strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT CONVERSION**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium
Beak length	long
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2845

RGT DRAX

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	medium

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT FLINTOFF**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	whole internal surface covered
Beak length	very long
Beak curvature	moderate to strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2850

RGT GALACTUS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

Variety Name: **RGT GRADIENT**

Crop: **WW**

Breeder's Reference: **RW41394**

AFP No:

Breeder: **R2n sas**

Translated from: **Danish**

Origin: **Trident + Gravitas**

Date: **22 March 2016**

Code: **RGTG**

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

*Plant - height:

*Straw - wall thickness @ 20cms below ear:

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

*Ear - Shape (side profile):

Ear - Length:

*Ear - Density:

*Awns or scurs - presence:

Awns or scurs - distribution:

*Scurs at tip of ear - length:

*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Extra characters:

Very weak to weak

Prostrate

Medium

Low to medium

Strong

Medium to strong

Strong

Short to medium

Absent or Very thin

Medium to strong

White

Tapering

Short to medium

Medium

Present

Long

Medium to long

Slightly curved

Medium

Elevated

Medium

Moderately curved

Weak to medium

Red

Dark

Winter

* = Characteristics which should always be included in the description of the variety.

28 March 2018

RGT GRAVITY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

RGT HOWLEY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	large to very large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT ILLUSTRIOUS**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	medium to strong (2+)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

RGT KNIGHTSBRIDGE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2708

RGT KOI

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	slightly sloping

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT LANTERN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

RGT MARLBOROUGH**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

RGT NONU**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT PADDINGTON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

RGT PEMBROKE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2849

RGT QUICKSILVER

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT RASHID**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT SACRAMENTO**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	long to very long
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	slightly sloping

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	light

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2702

RGT SAKI

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT SILVERSURFER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT STOKES**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2843

RGT VENOM

CHARACTERS IN DETAIL

Ear

Colour	white
Length	long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT WASABI**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT WILKINSON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT WOLVERINE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	short
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT ZINZAN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	small to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

SARTORIAL**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak (group 1)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

SY COACH**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	very short to short
Apical rachis segment - convex face hairiness	large to very large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT SCRUMMAGE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2268

RGT SORCERER

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	
Awns or scurs - length	n/a
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

RGT WESTMINSTER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2519

RGT UNIVERSE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	



RIBAND**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak (1)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	absent or very weak

ROADSTER

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	
Awns or scurs - length	n/a
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	long to very long
Beak curvature	moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	straight

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	light

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

ROBIGUS**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	weak

ROWLING

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

ROYSTON**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	weak to medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

RUSKIN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1649

SAHARA

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	medium to long
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	weak
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

SAVELLO

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

SCOUT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	straight to slightly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

SCRIBE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2404

SHABRAS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	strongly elevated with 2nd pt. present

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

SHEPHERD**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

SHERLOCK**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	long to very long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

SHIRE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2138

SKYFALL

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length:	very long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	long to very long
Beak curvature	v.slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	elev. to elev with 2nd point

Lower lemma

Beak curvature	straight
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

SMUGGLER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	very strong
Plant - growth habit	intermediate
Time of ear emergence	early
Flag leaf - anthocyanin of auricles	absent or very weak

SOISSONS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak - Group 1
Beak length	
Beak curvature	
Shoulder width	narrow
Shoulder shape	slightly sloping

Lower lemma

Beak curvature	straight
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Grain

Colour	red
Colouration with phenol	

Straw

Length	
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	weak
Culm - neck	absent or very weak
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	very early to early
Flag leaf - anthocyanin of auricles	absent or very weak

SOLACE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

SOLSTICE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	straight

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	
Culm - neck	strong to very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	very weak

WINTER WHEAT

AFP 1/2178

SOLTEK

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

Variety Name: **SORRIAL**

Crop: **WINTER WHEAT**

Breeder's Reference:

AFP No:

Breeder: CAUSSADE SEMENCES SA

Translated from:

Origin: FRANCE

Date: 03 June 2013

Code: SORRI

Coleoptile-anthocyanin colouration:

MEDIUM

***Plant - growth habit:**

INTERMEDIATE TO SEMI-PROSTRATE

***Time ear emergence:**

EARLY TO MEDIUM

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

VERY LOW TO LOW

***Flag leaf - Glaucosity of sheath:**

VERY STRONG

Flag leaf - Glaucosity of leaf blade:

STRONG TO VERY STRONG

Anthers - anthocyanin colouration:

Glaucosity of neck:

STRONG TO VERY STRONG

Hairiness of uppermost node:

***Plant - height:**

SHORT

***Straw - wall thickness @ 20cms below ear:**

VERY THIN

***Ear - Glaucosity:**

STRONG TO VERY STRONG

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

WHITE

***Ear - Shape (side profile):**

PARALLEL SIDED

Ear - Length:

MEDIUM TO LONG

***Ear - Density:**

DENSE

***Awns or scurs - presence:**

SCURS PRESENT

Awns or scurs - distribution:

***Scurs at tip of ear - length:**

VERY SHORT TO SHORT

***Awns at tip of ear - length:**

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

MEDIUM TO BROAD

Lower glume - Shoulder width:

STRAIGHT

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

WEAK

Lower glume - Internal imprint:

Lower lemma - Beak shape:

SLIGHTLY CURVED

Lower lemma - Beak length-:

SHORT

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

WEAK TO MEDIUM

***Grain - colour:**

RED

Grain - Shape:

Grain - Brush hair length in dorsal view:

MEDIUM

Grain - Colouration with phenol:

WINTER

***Seasonal type:**

Extra characters:

* = Characteristics which should always be included in the description of the variety.

30 March 2015

WINTER WHEAT

AFP 1/2800

SPEARHEAD

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

SPOCK**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

SPYDER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1941

STIGG

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	very dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2447

STRATOSPHERE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	medium
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

SWALLOW

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2001

SY EPSON

CHARACTERS IN DETAIL

Ear

Colour:	white
Length:	long
Density:	lax to medium
Shape (side profile)	parallel sided
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness:	very weak
Anthers - anthocyanin	

Lower Glume

External surface roughness:	
Extent of internal hairs:	weak to medium - group 1 to 2
Beak length:	short to medium
Beak shape (curvature):	slightly to moderately curved
Shoulder	narrow to medium
Shoulder	slightly sloping or straight

Lower Lemma

Beak shape:

Grain

Colour	red
Colouration with phenol:	medium

Straw

Length:	
Wall thickness @ 20cms below ear:	very thin

Glaucosity

Flag leaf - sheath:	medium to strong
Flag leaf - blade (lower side):	medium
Culm neck:	medium to strong
Ear - Glaucosity:	medium to strong

Plant growth characters

Coleoptile-anthocyanin	absent to very weak
Plant - growth habit:	semi-prostrate
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	

SY GRIFFIN**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

SY INSITOR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

SY LOKI**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

SY MEDEA**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	very short to short
Beak curvature	slightly curved
Shoulder width	medium to broad
Shoulder shape	elevated

Lower lemma

Beak curvature	
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Grain

Colour	red
Colouration with phenol	dark to very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

THEODORE**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	medium

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

TIMARU

CHARACTERS IN DETAIL

Ear

Colour	white
Length	long
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	tip only
Awns or scurs - length:	very short
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2712

TOBY

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short
Density	dense to very dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	medium

Straw

Length	short
Wall thickness @20cms below ear	medium

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	absent or very weak

Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1986

TORCH

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	medium

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

TORPHINS

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

Lower glume

External surface	rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

TREASURE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1954

TUXEDO

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

TWISTER**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/2206

UNIVERSAL

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

VELOCITY**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	tip only
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	strongly curved to geniculate
Shoulder width	medium to broad
Shoulder shape	strongly elevated with 2nd pt. present

Lower lemma

Beak curvature	geniculate
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	

VERSO

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	v.slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	straight to slightly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

VISCOUNT**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

Variety Name: **Vulkan**

Crop: Winter Wheat

Breeder's Reference:

AFP No:

Breeder: Poljoprivredni Institut Osijek

Translated from: Croatian

Origin:

Date: 11 March 2014

Code: VULK

Coleoptile-anthocyanin colouration:

*Plant - growth habit:

Semi erect to intermediate

*Time ear emergence:

Very early to early

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

Low

*Flag leaf - Glaucosity of sheath:

Medium

Flag leaf - Glaucosity of leaf blade:

Very weak to weak

Anthers - anthocyanin colouration:

Glaucosity of neck:

Weak to medium

Hairiness of uppermost node:

*Plant - height:

Medium

*Straw - wall thickness @ 20cms below ear:

Very thick or filled

*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

*Ear - Colour:

White

*Ear - Shape (side profile):

Parallel sided

Ear - Length:

Very short

*Ear - Density:

Medium

*Awns or scurs - presence:

Present

Awns or scurs - distribution:

*Scurs at tip of ear - length:

Medium

*Awns at tip of ear - length:

Medium

Lower glume - Beak length:

Long to very long

Lower glume - Beak shape (curvature):

Slightly curved

Lower glume - Beak tip:

Lower glume - Shoulder width:

Absent or very narrow

Lower glume - Shoulder type:

Sloping

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Medium

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Medium

*Grain - colour:

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

*Seasonal type:

Winter

Extra characters:

WARRIOR**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	n/a

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WEAVER

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	short to medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

WELCOME

CHARACTERS IN DETAIL

Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	very long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elev. to elev with 2nd point

Lower lemma

Beak curvature	straight
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Grain

Colour	red
Colouration with phenol	very dark

Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

WINTER WHEAT

AFP 1/1449

WELFORD

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	weak to medium

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/1281

XI19

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - length:	short
Awns or scurs - distribution	tip only
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight

Lower lemma

Beak curvature	moderately to strongly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	strong to very strong

Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	very weak

WINTER WHEAT

AFP 1/1545

ZEBEDEE

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight

Lower lemma

Beak curvature	slightly to moderately curved
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Grain

Colour	red
Colouration with phenol	light to medium

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

ZOOM**CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

Lower glume

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	reddish
Colouration with phenol	medium to dark

Straw

Length	very short to short
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

WINTER WHEAT

AFP 1/2155

ZULU

CHARACTERS IN DETAIL

Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

Lower lemma

Beak curvature	slightly curved
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Grain

Colour	red
Colouration with phenol	dark

Straw

Length	medium
Wall thickness @20cms below ear	thin

Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	