

ALMARA**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
Apical rachis segment - convex face hairiness	medium to 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	moderate to strongly curved
Shoulder width	medium
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 to very strong
Ear	medium to strong

Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-prostrate
Time of ear emergence	medium to 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	

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:

*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

Semi prostrate

Medium to late

Very low to low

Strong to very strong

Strong

Strong to very strong

Short to medium

Absent or very thin.

Strong to very strong

White

Tapering

Medium

Lax to medium

Present

Very short to short

Very short to short

Slightly curved

Narrow

Straight

Medium

Slightly curved

Strong

Red

Medium to dark

Winter

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

31 March 2015

ARLINGTON

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	absent or very weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	variable

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/4

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

Variety Name: **Axioma**

Crop: **Wheat**

Breeder's Reference: SEC 228-02-4

AFP No:

Breeder: Secobra Recherches

Translated from: German

Origin:

Date: 19 November 2018

Code: Axio

Coleoptile-anthocyanin colouration:

Medium

***Plant - growth habit:**

Intermediate

***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

Flag leaf - Glaucosity of leaf blade:

Strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

Strong

Hairiness of uppermost node:

***Plant - height:**

Short to medium

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

Medium

***Ear - Glaucosity:**

Strong

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

Tapering

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

Ear - Length:

Short to medium

***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:

Short

Lower glume - Beak shape (curvature):

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:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Weak

***Grain - colour:**

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

Very dark

***Seasonal type:**

Winter

Extra characters:

* = 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	

BAMFORD**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
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	slightly elevated

Lower lemma

Beak curvature	strongly curved
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Grain

Colour	reddish
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 to very 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	absent or very weak

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

BASIL**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	not applicable

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	horizontal to slightly elevated
Length of beak	short to medium
Shape of beak	strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/4

BASTION

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short
Shape of beak	slightly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

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:	

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

BLACKSTONE**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 3/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	small to 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	narrow to medium
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	geniculate
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Grain

Colour	reddish
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)	medium to 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

BLUEBIRD

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	short to medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	absent or very small
Awns or scurs - distribution	upper 1/4

BOLINDER**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	
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire 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	narrow
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	moderately curved
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Grain

Colour	reddish
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
Ear	medium to strong

Plant growth characters

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

Carfax

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late to very late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	strongly elevated
Length of beak	short to medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium to very large (Group 2+)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

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 ot 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 ot 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

CHARLES

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	absent or very weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late to very late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	long
Shape of beak	slightly to moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

Chessum

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	medium to very large (Group 2+)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/4

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	

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	medium
Awns or scurs - distribution	upper 1/4

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

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 intermedate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

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	

DIAMOND

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	semi-erect to intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated
Length of beak	very long
Shape of beak	moderate to strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	entire external surface rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	awns present
Awns or scurs - length	very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	whole length

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	

Dragonheart

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low to medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	long to very long
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	slightly rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	awns present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	whole length

DREADNOUGHT

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low to medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	horizontal to slightly elevated
Length of beak	short to medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

Variety Name: **EDELMANN**

Crop: Winter Wheat

Breeder's

AFP No:

Breeder:

Translated from: AUSTRIAN

Origin: AUSTRIA

Date:

Code: EDEL

Coleoptile-anthocyanin colouration:

***Plant - growth habit:**

weak

***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:**

weak to medium

Flag leaf - Glaucosity of leaf blade:

weak

Anthers - anthocyanin colouration:

Glaucosity of neck:

medium

Hairiness of uppermost node:

***Plant - height:**

long

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

absent to very thin

***Ear - Glaucosity:**

medium

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

white

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

parallel

Ear - Length:

medium

***Ear - Density:**

medium

***Awns or scurs - presence:**

Awns present

Awns or scurs - distribution:

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

long

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

Lower glume - Beak length:

medium to long

Lower glume - Beak shape (curvature):

medium

Lower glume - Beak tip:

Lower glume - Shoulder width:

narrow to medium

Lower glume - Shoulder type:

slightly sloping to straight

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

strong group 3

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

***Seasonal type:**

winter

Extra characters:

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

28 March 2024

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

Colour
 Length
 Density
 Shape-side profile
 Awns or scurs - presence
 Awns or scurs - distribution
 Awns or scurs - length
 Apical rachis segment - convex face hairiness
 Anthers - anthocyanin colouration

white
 short to medium
 medium
 parallel sided
 scurs present
 upper 1/2
 medium to long
 medium
 absent

Lower glume

External surface
 Extent of internal hairs
 Beak length
 Beak curvature
 Shoulder width
 Shoulder shape

smooth
 weak to medium (group 1+)
 medium
 moderately curved
 medium
 straight to elevated

Lower lemma

Beak curvature

moderately curved

Grain

Colour
 Colouration with phenol

red
 medium to dark

Straw

Length
 Wall thickness @20cms below ear

short
 absent or very thin

Glaucosity

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

medium to strong
 medium to strong
 medium to strong
 medium to strong

Plant growth characters

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

weak to medium
 intermed. to semi-prostrate
 late

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	

ENERGY

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	moderate to strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	large
Awns or scurs - distribution	upper 1/4

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	

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

FRENZY

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	strong to very strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucoisity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	long
Shape of beak	slight to moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	large
Awns or scurs - distribution	upper 1/2

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	

GALLOWGLASS

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	horizontal to slightly elevated
Length of beak	medium to long
Shape of beak	moderately curved
Extent of internal hairs	medium to very large (Group 2+)
External surface roughness	not applicable

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	large
Awns or scurs - distribution	upper 1/2

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

Gibson

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low to medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short
Shape of beak	v.slightly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	slightly rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

Girton**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	medium to high
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very small (Group 1)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/2

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	

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:

Absent or very weak

***Plant - growth habit:**

Intermediate to semi prostrate

***Time ear emergence:**

Medium to late

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:**

Strong to very strong

Ear - Supernumerary spikelets - frequency:

***Ear - Colour:**

White

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

Parallel sided

Ear - Length:

Long to very long

***Ear - Density:**

Medium to dense

***Awns or scurs - presence:**

Present

Awns or scurs - distribution:

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

Very short

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

Lower glume - Beak length:

Short

Lower glume - Beak shape (curvature):

Slightly curved

Lower glume - Beak tip:

Lower glume - Shoulder width:

Narrow

Lower glume - Shoulder type:

Straight or elevated

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

***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.

31 March 2015

Hadrian**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	light to medium

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium to long
Shape of beak	moderately to strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

HEARTWOOD

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 3/4

HECTOR

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	slightly rough

Ear

Density	dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

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:	

ISLA**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

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	

KWS AINTREE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	horizontal to slightly elevated
Length of beak	short to medium
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	absent or very small
Awns or scurs - distribution	upper 1/4

KWS ARISTOTLE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	none or very light

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	long to very long
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium to very large (Group 2+)
External surface roughness	rough

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	awns present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	whole length

KWS ARNIE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	slight to moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 3/4

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 BESTE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	horizontal to slightly elevated
Length of beak	short
Shape of beak	slightly to moderately curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	entire external surface rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/4

KWS BOYCIE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	slightly rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

KWS CHECKMATE**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	rough

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	medium
Awns or scurs - distribution	upper 1/2

KWS CHIME

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	light to medium

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium to broad
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

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:

Medium to strong

***Plant - growth habit:**

Intermediate to semi-prostrate

***Time ear emergence:**

Medium to late

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

Low

***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:**

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):**

Parallel sided

Ear - Length:

Medium

***Ear - Density:**

Medium to dense

***Awns or scurs - presence:**

Scur present

Awns or scurs - distribution:

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

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

Medium to long

Lower glume - Beak length:

Medium

Lower glume - Beak shape (curvature):

Slightly curved to moderately curved

Lower glume - Beak tip:

Lower glume - Shoulder width:

Medium to broad

Lower glume - Shoulder type:

Slightly sloping to straight

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Medium

Lower glume - Internal imprint:

Slightly curved to moderately curved

Lower lemma - Beak shape:

Strongly curved to geniculate

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:

Dark to very dark

***Seasonal type:**

Winter

Extra characters:

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

28 June 2021

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 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

KWS DENSOLE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

KWS DRAGUM**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	small 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	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	dark

Straw

Length	short
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 to very strong
Ear	medium to 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

KWS EQUIPE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	semi-erect to intermediate
Frequency of plants with recurved flag leaves	low to medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 3/4

WINTER WHEAT

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	

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 FLUTE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	slight to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

KWS FOWLMERE**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

KWS FYNE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	rough

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/2

KWS GREBE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	absent or very weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

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

KWS IMRIE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

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 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 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 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	

KWS MAJESTIQUE**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

KWS MANATEE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	short to medium
Shape of beak	moderately curved
Extent of internal hairs	medium to very large (Group 2+)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

KWS MAXIMISE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	not applicable

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	not applicable
Awns or scurs - distribution	upper 1/4

KWS MELESIE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/2

KWS MONGOOSE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderate to strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

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:

Strong to very strong

Glaucosity of neck:

Hairiness of uppermost node:

Short to medium

***Plant - height:**

Absent or very thin

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

Strong

***Ear - Glaucosity:**

Ear - Supernumerary spikelets - frequency:

White

***Ear - Colour:**

Parallel sided

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

Medium

Ear - Length:

Medium

***Ear - Density:**

Scurs present

***Awns or scurs - presence:**

Awns or scurs - distribution:

Very short

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

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

Very short to short

Lower glume - Beak length:

Straight to slightly curved

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Medium

Lower glume - Shoulder width:

Slightly sloping to straight

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Very weak to weak

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Strong to very strong

Apical rachis segment - convex face hairiness:

Red

***Grain - colour:**

Grain - Shape:

Grain - Brush hair length in dorsal view:

Medium to dark

Grain - Colouration with phenol:

Winter

***Seasonal type:**

Extra characters:

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

23 March 2016

KWS NEWBIE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	entire external surface rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Awns or scurs - distribution	upper 1/4

Winter Wheat

[AFP 1/3447]

KWS OZZIE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	medium to very large (Group 2+)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/4

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	

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 SCOPE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	light to medium

Plant

Anthocyanin colouration of coleoptile	strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

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 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 SMOOTHIE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/2

KWS SOLITAIRE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	moderate to strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium
Awns or scurs - distribution	upper 3/4

KWS TWINE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low to medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/4

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 VIBE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/2

KWS VICARAGE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	medium to long
Shape of beak	moderate to strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

KWS VINNIE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slight to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium
Awns or scurs - distribution	upper 1/2

KWS VOYAGE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

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 ZEALUM**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	medium
Apical rachis segment - convex face hairiness	large
Anthers - anthocyanin colouration	absent

Lower glume

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

Lower lemma

Beak curvature	strongly curved to geniculate
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Grain

Colour	reddish
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	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

KWS ZIZZLE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

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	

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	

Variety Name: **LEMMY**

Crop: **Winter wheat**

Breeder's Reference:

AFP No:

Breeder:

Translated from: German

Origin:

Date: 01 January 2017

Code: LEMMY

Coleoptile-anthocyanin colouration:	Weak to medium
*Plant - growth habit:	Intermediate
*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:	Strong
Flag leaf - Glaucosity of leaf blade:	Medium
Anthers - anthocyanin colouration:	
Glaucosity of neck:	Weak
Hairiness of uppermost node:	
*Plant - height:	Short to medium
*Straw - wall thickness @ 20cms below ear:	Thin
*Ear - Glaucosity:	Weak to medium
Ear - Supernumerary spikelets - frequency:	
*Ear - Colour:	White
*Ear - Shape (side profile):	Tapering
Ear - Length:	Medium
*Ear - Density:	Lax
*Awns or scurs - presence:	Scurs 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):	Slight to moderately curved
Lower glume - Beak tip:	
Lower glume - Shoulder width:	Narrow to medium
Lower glume - Shoulder type:	Straight to elevated
Lower glume - External surface roughness:	-
Lower glume - Extent of internal hairs:	Strong to very strong
Lower glume - Internal imprint:	-
Lower lemma - Beak shape:	-
Lower lemma - Beak length-:	-
Lower lemma - Beak swelling:	-
Apical rachis segment - convex face hairiness:	Weak
*Grain - colour:	Red
Grain - Shape:	-
Grain - Brush hair length in dorsal view:	-
Grain - Colouration with phenol:	Dark
*Seasonal type:	Winter
Extra characters:	

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

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 ARKLE**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 3/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	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	v.slightly curved
Shoulder width	narrow
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	slightly to moderately curved
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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
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	absent or very weak

Winter Wheat

[AFP 1/3240]

LG ARTMAN

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/2

LG ASHE

CHARACTERS IN DETAIL

Grain

Colour	white
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	long to very long
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium to very large (Group 2+)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	awns present
Awns or scurs - length	very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	whole length

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 BEOWULF**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	
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	strong (group 3)
Beak length	medium
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 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	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

LG CHALLENGER**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	absent or very weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium
Awns or scurs - distribution	upper 1/2

LG DEFIANCE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	slightly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	long
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/2

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 FORDITE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium to long
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

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	

LG HENRI

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	long
Shape of beak	moderate to strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	slightly rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium
Awns or scurs - distribution	upper 3/4

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 KERMIT

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	very small (Group 1)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	short
Colour	white
Shape in profile	tapering
Awns or scurs - distribution	upper 1/4

LG LOTUS**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	long
Shape of beak	slightly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	large
Awns or scurs - distribution	upper 3/4

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 PACHA

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

LG PARTRIDGE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slight to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

Winter Wheat

[AFP 1/3456]

LG PENTAGON

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucoisity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

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 PUFFIN

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	light to medium

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	short to medium
Shape of beak	moderate to strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

Winter Wheat

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LG REBELLION

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	short
Shape of beak	v.slightly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

LG REDRUM**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
Apical rachis segment - convex face hairiness	
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	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	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
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	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	strong (group 3)
Extent of internal hairs	medium to long
Beak length	moderately curved
Beak curvature	narrow to medium
Shoulder width	slightly elevated to strongly elevated
Shoulder shape	

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 ROCKHOPPER**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	small to medium
Anthers - anthocyanin colouration	absent

Lower glume

External surface	entire external surface rough
Extent of internal hairs	strong (group 3)
Beak length	very long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated

Lower lemma

Beak curvature	moderately to 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 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	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	very weak

LG SHERGAR

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	very short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

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 SPEAR

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium to broad
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/4

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 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 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 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

LG WINDMILL

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	strongly elevated
Length of beak	long
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	awns present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	whole length

LOXLEY

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	absent or very weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

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

LUCIFER**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	very late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	rough

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/4

Lower lemma

Shape of beak	moderately curved
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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

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

MEMPHIS

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slight to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	absent or very small
Awns or scurs - distribution	upper 1/2

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

Milligan

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	light to medium

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low to medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/4

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

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

NOS Beast

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low to medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

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	

OXFORD**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

PERCY

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	large to very large
Awns or scurs - distribution	upper 1/4

RADAR

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucoisity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium to long
Shape of beak	strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	slightly rough

Ear

Density	dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

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 $\frac{1}{4}$
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 - 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 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 EVESHAM**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	entire external surface rough

Ear

Density	dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/2

RGT GEM

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late to very late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	rough

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

RGT GOLDFINCH**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

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 GROUSE

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	large
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 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	short to 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
Ear	medium

Plant growth characters

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

RGT GUARDSMAN**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	absent or very weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

RGT HEXTON

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderate to strongly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

RGT HIGHGROVE

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	very small to small
Anthers - anthocyanin colouration	absent

Lower glume

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	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	moderately to strongly curved
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Grain

Colour	reddish
Colouration with phenol	medium

Straw

Length	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	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

RGT HYDRA

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

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 KINGSBURY

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late to very late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium to long
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 3/4

RGT KRAKEN

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	light to medium

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

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 LUDLOW

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	slight to moderately curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	large to very large
Awns or scurs - distribution	upper 1/4

RGT MINOTAUR

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/2

RGT MOGUL

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	small to medium
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	very narrow to narrow
Shoulder shape	slightly elevated

Lower lemma

Beak curvature	moderately to 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 to very 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	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

RG T PHOENIX

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium
Shape of beak	slightly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

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 REDGRAVE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late to very late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	rough

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/2

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

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

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	very short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	slight to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	parallel sided
Awns or scurs - distribution	upper 1/2

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	very short to short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	moderate to strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	entire external surface rough

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 3/4

SANDY

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	absent or very weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	medium to long
Shape of beak	moderately curved
Extent of internal hairs	very small (Group 1)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

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	

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	

SNOWFLAKE

CHARACTERS IN DETAIL

Grain

Colour	white
Colouration with phenol	light to medium

Plant

Anthocyanin colouration of coleoptile	medium to strong
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	very long
Shape of beak	slightly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	awns present
Awns or scurs - length	very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	whole length

SPARKLER

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated
Length of beak	short to medium
Shape of beak	slightly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	short to medium
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	tip only

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

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	long
Shape of beak	strongly curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	lax to medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/2

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

SY CHEER

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucoisity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	moderately curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium to dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/4

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 MIRAGE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	medium
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow
Shoulder shape	slightly elevated
Length of beak	short to medium
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

SY MONZA

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	horizontal to slightly elevated
Length of beak	medium
Shape of beak	slight to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	dense
Length (excluding awns or scurs)	medium
Awns or scurs - presence	scurs present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	upper 1/2

SY NAIRN

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark

Plant

Anthocyanin colouration of coleoptile	very weak to weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	very low to low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	very short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium
Shape of beak	slightly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small to medium
Awns or scurs - distribution	upper 1/4

SY PINNACLE

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium

Plant

Anthocyanin colouration of coleoptile	absent or very weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium to late
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated
Length of beak	long to very long
Shape of beak	slightly curved
Extent of internal hairs	very small to medium (Group 1+)
External surface roughness	rough

Ear

Density	medium to dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	awns present
Awns or scurs - length	very long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	whole length

SY TRANSITION

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak to medium
Growth habit	intermediate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	medium
Length (stem, ears, awns or scurs)	short to medium
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	strongly elevated
Length of beak	very long
Shape of beak	moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	slightly rough

Ear

Density	dense
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	awns present
Awns or scurs - length	long to very long
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	small
Awns or scurs - distribution	whole length

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	

TREBLE4

CHARACTERS IN DETAIL

Grain

Colour	reddish
Colouration with phenol	dark to very dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermediate
Frequency of plants with recurved flag leaves	absent or very low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	thin

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	narrow to medium
Shoulder shape	slightly elevated
Length of beak	medium to long
Shape of beak	moderately to strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	medium to long
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/4

Urkart**CHARACTERS IN DETAIL****Grain**

Colour	reddish
Colouration with phenol	medium to dark

Plant

Anthocyanin colouration of coleoptile	weak
Growth habit	intermed. to semi-prostrate
Frequency of plants with recurved flag leaves	low
Anthocyanin colouration of flag leaf auricles	absent or very weak
Time of ear emergence	late
Length (stem, ears, awns or scurs)	short
Straw wall thickness (20cm below ear)	not applicable

Glaucosity

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

Lower glume

Hairiness of external surface	absent
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated
Length of beak	short
Shape of beak	slightly to moderately curved
Extent of internal hairs	very large (Group 3)
External surface roughness	smooth

Ear

Density	medium
Length (excluding awns or scurs)	short to medium
Awns or scurs - presence	scurs present
Awns or scurs - length	medium
Colour	white
Shape in profile	tapering
Apical rachis hairiness on convex surface	very small to small
Awns or scurs - distribution	upper 1/4

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	

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

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	