

Variety Name: **Aarden**

Crop: Winter Wheat

Breeder's Reference: SUR 97271/10

AFP No: 1/1573

Breeder: Saaten Union Recherche SARL

Translated from: German

Origin:

Date: 19 November 2003

Code: ARDN

Coleoptile-anthocyanin colouration:

medium

\*Plant - growth habit:

semi-prostrate to prostrate

\*Time ear emergence:

medium

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

absent or very low

\*Flag leaf - Glaucosity of sheath:

strong

Flag leaf - Glaucosity of leaf blade:

strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

strong to very strong

Hairiness of uppermost node:

\*Plant - height:

short

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

very thin

\*Ear - Glaucosity:

strong

Ear - Supernumerary spikelets - frequency:

\*Ear - Colour:

white

\*Ear - Shape (side profile):

tapering

Ear - Length:

medium

\*Ear - Density:

medium

\*Awns or scurs - presence:

scurs present

Awns or scurs - distribution:

\*Scurs at tip of ear - length:

short

\*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

\*Grain - colour:

red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

medium

\*Seasonal type:

winter

Extra characters:

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

06 May 2020

## WINTER WHEAT

## AEROBIC

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower Glume

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

#### Lower Lemma

Beak shape:

#### Grain

Colour	red
Colouration with phenol:	medium

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

**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	

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **ANAPOLIS**

Crop: Winter wheat

Breeder's Reference:

AFP No: 1/2148

Breeder: NORDSAAT

Translated from: German

Origin:

Date: 23 July 2013

Code: ANAP

**Coleoptile-anthocyanin colouration:**

Medium to strong

**\*Plant - growth habit:**

Semi prostrate

**\*Time ear emergence:**

Medium to late

**Flag leaf - Anthocyanin colouration of auricles:**

**Frequency of plants with recurved flag leaves:**

Very low to low

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

Strong to very strong

**Flag leaf - Glaucosity of leaf blade:**

Strong

**Anthers - anthocyanin colouration:**

**Glaucosity of neck:**

Strong to very strong

**Hairiness of uppermost node:**

**\*Plant - height:**

Short to medium

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

Absent or very thin.

**\*Ear - Glaucosity:**

Strong to very strong

**Ear - Supernumerary spikelets - frequency:**

**\*Ear - Colour:**

White

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

Tapering

**Ear - Length:**

Medium

**\*Ear - Density:**

Lax to medium

**\*Awns or scurs - presence:**

Present

**Awns or scurs - distribution:**

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

Very short to short

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

**Lower glume - Beak length:**

Very short to short

**Lower glume - Beak shape (curvature):**

Slightly curved

**Lower glume - Beak tip:**

**Lower glume - Shoulder width:**

Narrow

**Lower glume - Shoulder type:**

Straight

**Lower glume - External surface roughness:**

**Lower glume - Extent of internal hairs:**

Medium

**Lower glume - Internal imprint:**

**Lower lemma - Beak shape:**

Slightly curved

**Lower lemma - Beak length-:**

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

Strong

**\*Grain - colour:**

Red

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

**Grain - Colouration with phenol:**

Medium to dark

**\*Seasonal type:**

Winter

**Extra characters:**

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

31 March 2015



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

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

**Lower Glume**

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

**Lower Lemma**

Beak shape:	slightly curved
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**Grain**

Colour	red
Colouration with phenol:	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **Arkeos**

Crop:

Breeder's Reference:

AFP No:

Breeder: Nickerson International Research

Translated from:

Origin:

Date: 26 January 2015

Code: ARKE

Coleoptile-anthocyanin colouration:

Medium

\*Plant - growth habit:

Semi-prostrate to prostrate

\*Time ear emergence:

Early

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

\*Flag leaf - Glaucosity of sheath:

Strong to very strong

Flag leaf - Glaucosity of leaf blade:

Strong to very strong

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

\*Plant - height:

Short to medium

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

Very thin

\*Ear - Glaucosity:

Medium

Ear - Supernumerary spikelets - frequency:

\*Ear - Colour:

White

\*Ear - Shape (side profile):

Ear - Length:

Long

\*Ear - Density:

Lax to medium

\*Awns or scurs - presence:

Present

Awns or scurs - distribution:

\*Scurs at tip of ear - length:

Short to medium

\*Awns at tip of ear - length:

Lower glume - Beak length:

Short to medium

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Narrow

Lower glume - Shoulder type:

Straight to slightly sloping

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Medium to strong

Lower lemma - Beak shape:

Slightly curved

Lower lemma - Beak length-:

Short to medium

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Medium

\*Grain - colour:

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

Medium to dark

\*Seasonal type:

Winter

Extra characters:

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

30 March 2015

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**AVATAR****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **Axioma**

Crop: **Wheat**

**Breeder's Reference:** SEC 228-02-4

**AFP No:**

**Breeder:** Secobra 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:**

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

Tapering

**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

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

## BELENUS

## CHARACTERS IN DETAIL

## Ear

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

## Lower Glume

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

## Lower Lemma

Beak shape:	slightly curved
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## Grain

Colour	red
Colouration with phenol:	medium

## Straw

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

## Glaucosity

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

## Plant growth characters

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

## WINTER WHEAT

## BELEPI

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower Glume

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

#### Lower Lemma

Beak shape:	straight to slightly curved
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#### Grain

Colour	red
Colouration with phenol:	dark to very dark

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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

**BELGRADE****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

AFP 1/1885

# BELUGA

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	medium

#### Straw

Length	very short
Wall thickness @20cms below ear	thin

#### Glaucosity

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

#### Plant growth characters

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

AFP 1/1227

# BISCAY

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	moderately to strongly curved
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#### Grain

Colour	red
Colouration with phenol	light to medium

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	purple
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**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

**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

## BOOMER

## CHARACTERS IN DETAIL

## Ear

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

## Lower Glume

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

## Lower Lemma

Beak shape:

## Grain

Colour	red
Colouration with phenol:	dark

## Straw

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

## Glaucosity

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

## Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



**BROMPTON****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

# BYSTRA

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower Glume

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

#### Lower Lemma

Beak shape:	slightly curved
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#### Grain

Colour	red
Colouration with phenol:	light to medium

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

AFP 1/1798

# CASSIUS

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	medium

#### Straw

Length	medium
Wall thickness @20cms below ear	thin

#### Glaucosity

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

#### Plant growth characters

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

**CATALYST****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **CELLULE**

Crop: Alternative Wheat

Breeder's Reference: fd08114/Cellule

AFP No:

Breeder: Florimond Desprez Veuve et Fils

Translated from:

Origin:

Date: 15 May 2018

Code: CELL

**Coleoptile-anthocyanin colouration:**

\*Plant - growth habit:

\*Time ear emergence:

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

\*Flag leaf - Glaucosity of sheath:

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

Glaucosity of neck:

Hairiness of uppermost node:

\*Plant - height:

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

\*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

\*Ear - Colour:

\*Ear - Shape (side profile):

Ear - Length:

\*Ear - Density:

\*Awns or scurs - presence:

Awns or scurs - distribution:

\*Scurs at tip of ear - length:

\*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

Lower glume - Shoulder width:

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

\*Grain - colour:

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

\*Seasonal type:

Extra characters:

Very strong

Intermediate to semi prostrate

Early

Low

Very strong

Strong 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



**CHEVRON****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

AFP 1/1980

# CHILTON

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	strongly curved
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#### Grain

Colour	red
Colouration with phenol	dark to very dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

AFP 1/1070

## CLAIRE

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	slightly to moderately curved
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#### Grain

Colour	red
Colouration with phenol	very dark

#### Straw

Length	medium
Wall thickness @20cms below ear	thin

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

**COMOROS CS****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**COUGAR****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

**CREEK****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**CRUSOE****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**DEBEN****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

**DENMAN****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## 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

## WINTER WHEAT

AFP 1/2031

# DICKENS

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	medium to dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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



## EDGAR

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

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

**Lower Glume**

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

**Lower Lemma**

Beak shape:

**Grain**

Colour	red
Colouration with phenol:	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

AFP 1/1376

# EINSTEIN

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	moderately to strongly curved
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#### Grain

Colour	red
Colouration with phenol	medium to dark

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**RELATION****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## 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	

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

**FAIRWAY****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

## FLORETT

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower Glume

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

#### Lower Lemma

Beak shape:

#### Grain

Colour	red
Colouration with phenol:	dark

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## 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

#### 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	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

Variety Name: **Frontal**

Crop:

Breeder's Reference:

AFP No:

Breeder:

Translated from: Dutch

Origin:

Date: 24 March 2015

Code: FRNT

**Coleoptile-anthocyanin colouration:**

Absent or very weak

**\*Plant - growth habit:**

Intermediate to semi prostrate

**\*Time ear emergence:**

Medium

**Flag leaf - Anthocyanin colouration of auricles:**

**Frequency of plants with recurved flag leaves:**

Low to medium

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

Strong to very strong

**Flag leaf - Glaucosity of leaf blade:**

Strong

**Anthers - anthocyanin colouration:**

**Glaucosity of neck:**

Strong to very strong

**Hairiness of uppermost node:**

**\*Plant - height:**

Medium

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

Very thin

**\*Ear - Glaucosity:**

Strong to very strong

**Ear - Supernumerary spikelets - frequency:**

**\*Ear - Colour:**

White

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

Tapering

**Ear - Length:**

Short to medium

**\*Ear - Density:**

Medium to dense

**\*Awns or scurs - presence:**

Present

**Awns or scurs - distribution:**

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

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

Medium

**Lower glume - Beak length:**

Medium

**Lower glume - Beak shape (curvature):**

**Lower glume - Beak tip:**

**Lower glume - Shoulder width:**

Medium

**Lower glume - Shoulder type:**

Elevated

**Lower glume - External surface roughness:**

**Lower glume - Extent of internal hairs:**

**Lower glume - Internal imprint:**

**Lower lemma - Beak shape:**

Moderately curved

**Lower lemma - Beak length-:**

Medium

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

Medium to strong

**\*Grain - colour:**

Red

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

**Grain - Colouration with phenol:**

Medium to dark

**\*Seasonal type:**

Winter

**Extra characters:**

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

30 March 2015

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	straight
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**GANDALF****CHARACTERS IN DETAIL****Ear**

Colour	coloured
Length	short to 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 to large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	medium (group 2)
Beak length	very long
Beak curvature	moderate to strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	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)	strong
Culm - neck	strong to very strong
Ear	weak

**Plant growth characters**

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **Genius**

Crop: Winter Wheat

**Breeder's Reference:**

**AFP No:**

**Breeder:** Nordsaat Saatzuchtgesellschaft

**Translated from:** German

**Origin:**

**Date:** 08 October 2010

**Code:** GENI

**Coleoptile-anthocyanin colouration:**

absent or very weak

**\*Plant - growth habit:**

intermediate

**\*Time ear emergence:**

medium

**Flag leaf - Anthocyanin colouration of auricles:**

**Frequency of plants with recurved flag leaves:**

very low to low

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

strong

**Flag leaf - Glaucosity of leaf blade:**

medium to strong

**Anthers - anthocyanin colouration:**

**Glaucosity of neck:**

medium to strong

**Hairiness of uppermost node:**

**\*Plant - height:**

short to medium

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

very thin

**\*Ear - Glaucosity:**

weak to medium

**Ear - Supernumerary spikelets - frequency:**

**\*Ear - Colour:**

white

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

tapering

**Ear - Length:**

medium to long

**\*Ear - Density:**

lax to medium

**\*Awns or scurs - presence:**

scurs present

**Awns or scurs - distribution:**

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

short

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

**Lower glume - Beak length:**

short

**Lower glume - Beak shape (curvature):**

moderately curved

**Lower glume - Beak tip:**

**Lower glume - Shoulder width:**

narrow

**Lower glume - Shoulder type:**

straight to elevated

**Lower glume - External surface roughness:**

**Lower glume - Extent of internal hairs:**

weak - group 1

**Lower glume - Internal imprint:**

**Lower lemma - Beak shape:**

**Lower lemma - Beak length-:**

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

strong

**\*Grain - colour:**

red

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

**Grain - Colouration with phenol:**

medium to dark

**\*Seasonal type:**

winter

**Extra characters:**

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

30 March 2015

**GLADIATOR****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**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

**GRAVITAS****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower Glume**

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

**Lower Lemma**

Beak shape:	strongly curved
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**Grain**

Colour	red
Colouration with phenol:	medium to dark

**Straw**

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

**Glaucosity**

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	strong to very strong

Culm neck:	strong
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Ear - Glaucosity:	strong
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**Plant growth characters**

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

**HEREWARD****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**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:	

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **Hybery**

Crop: Winter Wheat

Breeder's Reference: surh.3628-164

AFP No:

Breeder: Syngenta seeds Ltd

Translated from:

Origin:

Date: 15 May 2018

Code: HYBE

<b>Coleoptile-anthocyanin colouration:</b>	Weak
<b>*Plant - growth habit:</b>	Intermediate to semi prostrate
<b>*Time ear emergence:</b>	Medium to late
<b>Flag leaf - Anthocyanin colouration of auricles:</b>	
<b>Frequency of plants with recurved flag leaves:</b>	Low to medium
<b>*Flag leaf - Glaucosity of sheath:</b>	Strong
<b>Flag leaf - Glaucosity of leaf blade:</b>	Strong
<b>Anthers - anthocyanin colouration:</b>	
<b>Glaucosity of neck:</b>	Medium to strong
<b>Hairiness of uppermost node:</b>	
<b>*Plant - height:</b>	Short to medium
<b>*Straw - wall thickness @ 20cms below ear:</b>	Very thin
<b>*Ear - Glaucosity:</b>	Medium to strong
<b>Ear - Supernumerary spikelets - frequency:</b>	
<b>*Ear - Colour:</b>	White
<b>*Ear - Shape (side profile):</b>	Parallel sided
<b>Ear - Length:</b>	Long
<b>*Ear - Density:</b>	Medium to dense
<b>*Awns or scurs - presence:</b>	Scurs present
<b>Awns or scurs - distribution:</b>	
<b>*Scurs at tip of ear - length:</b>	
<b>*Awns at tip of ear - length:</b>	
<b>Lower glume - Beak length:</b>	Very short to short
<b>Lower glume - Beak shape (curvature):</b>	Straight to slightly curved
<b>Lower glume - Beak tip:</b>	
<b>Lower glume - Shoulder width:</b>	Narrow
<b>Lower glume - Shoulder type:</b>	Straight
<b>Lower glume - External surface roughness:</b>	
<b>Lower glume - Extent of internal hairs:</b>	Weak to medium
<b>Lower glume - Internal imprint:</b>	
<b>Lower lemma - Beak shape:</b>	
<b>Lower lemma - Beak length-:</b>	
<b>Lower lemma - Beak swelling:</b>	
<b>Apical rachis segment - convex face hairiness:</b>	Very weak
<b>*Grain - colour:</b>	Red
<b>Grain - Shape:</b>	
<b>Grain - Brush hair length in dorsal view:</b>	
<b>Grain - Colouration with phenol:</b>	Very dark
<b>*Seasonal type:</b>	Winter
<b>Extra characters:</b>	

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

16 May 2018

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **HYTECK**

Crop: Alternative Wheat

Breeder's Reference: hyteck

AFP No:

Breeder: Saaten Union Recherche

Translated from:

Origin:

Date: 15 May 2018

Code: HYTE

**Coleoptile-anthocyanin colouration:**

Very weak to weak

**\*Plant - growth habit:**

Intermediate to semi prostrate

**\*Time ear emergence:**

Early to medium

**Flag leaf - Anthocyanin colouration of auricles:**

**Frequency of plants with recurved flag leaves:**

Low

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

Strong to very strong

**Flag leaf - Glaucosity of leaf blade:**

Medium to strong

**Anthers - anthocyanin colouration:**

**Glaucosity of neck:**

Medium to strong

**Hairiness of uppermost node:**

**\*Plant - height:**

Short to medium

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

Thin to medium

**\*Ear - Glaucosity:**

Medium to strong

**Ear - Supernumerary spikelets - frequency:**

**\*Ear - Colour:**

White

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

Parallel sided

**Ear - Length:**

Long to very long

**\*Ear - Density:**

Dense

**\*Awns or scurs - presence:**

Scurs present

**Awns or scurs - distribution:**

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

Very short to short

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

**Lower glume - Beak length:**

Very short to short

**Lower glume - Beak shape (curvature):**

Straight to slightly curved

**Lower glume - Beak tip:**

**Lower glume - Shoulder width:**

Narrow

**Lower glume - Shoulder type:**

Sloping or slightly sloping

**Lower glume - External surface roughness:**

**Lower glume - Extent of internal hairs:**

Weak

**Lower glume - Internal imprint:**

**Lower lemma - Beak shape:**

**Lower lemma - Beak length-:**

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

Very weak

**\*Grain - colour:**

Red

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

**Grain - Colouration with phenol:**

Dark to very dark

**\*Seasonal type:**

Alternative

**Extra characters:**

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

16 May 2018

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**ICON****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



**INVICTA****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

AFP 1/1737

# JB DIEGO

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	moderately to strongly curved
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#### Grain

Colour	red
Colouration with phenol	dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

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

#### Plant growth characters

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

## WINTER WHEAT

AFP 1/2329

# JELLCOE

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	medium to dark

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **Juniper**

Crop: **Wheat**

**Breeder's Reference:** SjP0579

**AFP No:**

**Breeder:** Limagrain UK Ltd

**Translated from:** Danish

**Origin:**

**Date:** 06 April 2023

**Code:** JUNP

**Coleoptile-anthocyanin colouration:**

Medium

**\*Plant - growth habit:**

Intermediate to semi-prostrate

**\*Time ear emergence:**

Medium

**Flag leaf - Anthocyanin colouration of auricles:**

Absent or very weak

**Frequency of plants with recurved flag leaves:**

Low to medium

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

Strong

**Flag leaf - Glaucosity of leaf blade:**

Strong

**Anthers - anthocyanin colouration:**

**Glaucosity of neck:**

Medium to strong

**Hairiness of uppermost node:**

**\*Plant - height:**

Medium

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

Thin

**\*Ear - Glaucosity:**

Strong

**Ear - Supernumerary spikelets - frequency:**

**\*Ear - Colour:**

White

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

Parallel sided

**Ear - Length:**

Short to medium

**\*Ear - Density:**

Medium

**\*Awns or scurs - presence:**

Scurs present

**Awns or scurs - distribution:**

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

hort to medium

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

**Lower glume - Beak length:**

Long

**Lower glume - Beak shape (curvature):**

Slightly curved to moderately curved

**Lower glume - Beak tip:**

**Lower glume - Shoulder width:**

Narrow to medium

**Lower glume - Shoulder type:**

Horizontal to slightly elevated

**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:**

Reddish

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

**Grain - Colouration with phenol:**

**\*Seasonal type:**

Winter type

**Extra characters:**

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

19 April 2023

**KETCHUM****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



**KINGDOM****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

## KRIS

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower Glume

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

#### Lower Lemma

Beak shape:	slightly curved
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#### Grain

Colour	red
Colouration with phenol:	medium to dark

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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

**KWS ALABASTER****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	white
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## KWS 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

#### Glaucoesity

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS BOATUM****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	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	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
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	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS BRENNUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
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
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	light to medium

**Straw**

Length	short
Wall thickness @20cms below ear	

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS BURGHELY****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	very light to light

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

Variety Name: **KWS COLOSSEUM**

Crop: **Wheat**

Breeder's **KWS W370**

**AFP No:**

**Breeder:** KWS UK LTD

**Translated from:**

**Origin:**

**Date:** 28 June 2021

**Code:** KCOL

**Coleoptile-anthocyanin colouration:**

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 CONROS****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

**KWS CROSBY****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



**KWS DALI****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS DELUXUM****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS 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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**WINTER WHEAT**

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

## WINTER WHEAT

AFP 1/2421

# KWS FENWAY

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	INVALID CHARACTER STATE!
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#### Grain

Colour	red
Colouration with phenol	medium to dark

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS GATOR****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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



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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS HARLYN****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

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

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS JUGUM****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS KARTUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very 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	short to medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	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	weak to medium

**Plant growth characters**

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



**KWS KENTON****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS KERANKUM****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS KERRIN****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS KIELDER****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

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

**KWS KINETIC****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS KINNELUM****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS LEON****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS LILI****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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



## WINTER WHEAT

AFP 1/1972

# KWS LUMOS

### CHARACTERS IN DETAIL

#### Ear

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

#### Lower glume

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

#### Lower lemma

Beak curvature	strongly curved
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#### Grain

Colour	red
Colouration with phenol	medium

#### Straw

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

#### Glaucosity

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

#### Plant growth characters

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

**KWS LUTHER****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

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

**Glaucosity**

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

**Plant growth characters**

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

**KWS MADRYN****CHARACTERS IN DETAIL****Ear**

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

**Lower glume**

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

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

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

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**KWS MCGUGUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	short to medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**KWS MODELLUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	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	narrow
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved
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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	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**KWS MOJITO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

## 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:**

**\*Straw - wall thickness @ 20cms below ear:**

Absent or very thin

**\*Ear - Glaucosity:**

Strong

**Ear - Supernumerary spikelets - frequency:**

**\*Ear - Colour:**

White

**\*Ear - Shape (side profile):**

Parallel sided

**Ear - Length:**

Medium

**\*Ear - Density:**

Medium

**\*Awns or scurs - presence:**

Scurs present

**Awns or scurs - distribution:**

**\*Scurs at tip of ear - length:**

Very short

**\*Awns at tip of ear - length:**

**Lower glume - Beak length:**

Very short to short

**Lower glume - Beak shape (curvature):**

Straight to slightly curved

**Lower glume - Beak tip:**

**Lower glume - Shoulder width:**

Medium

**Lower glume - Shoulder type:**

Slightly sloping to straight

**Lower glume - External surface roughness:**

**Lower glume - Extent of internal hairs:**

Very weak to weak

**Lower glume - Internal imprint:**

**Lower lemma - Beak shape:**

**Lower lemma - Beak length-:**

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

Strong to very strong

**\*Grain - colour:**

Red

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

**Grain - Colouration with phenol:**

Medium to dark

**\*Seasonal type:**

Winter

**Extra characters:**

\* = Characteristics which should always be included in the description of the variety.

23 March 2016





**KWS MOZART****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermedate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

## 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

#### Glaucoisity

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

**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 PLECTRUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	v.slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short
Wall thickness @20cms below ear	medium

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**KWS PODIUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**KWS RACKUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**KWS ROADUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	small to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak



**KWS ROWAN****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper ½
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**KWS SABRUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	very strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	absent or very weak

**KWS SANTIAGO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**KWS SAXTEAD****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns of scurs - distribution	whole length
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	strong - Group 3
Beak length	long
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**KWS SCIMITAR****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	broad
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

## KWS 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

#### 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	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 intermedate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**KWS SILVUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak



**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 SKATEUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated

**Lower lemma**

Beak curvature	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
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**KWS SKOMER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	early
Flag leaf - anthocyanin of auricles	

## 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

## WINTER WHEAT

AFP 1/1975

# KWS SOLO

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

#### Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	dark to very dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**KWS STERLING****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns of scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

## WINTER WHEAT

AFP 1/1911

# KWS TARGET

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	very dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**KWS TEMPO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	rough
Extent of internal hairs	weak to medium
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	



**KWS TRAINUM****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	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	long
Beak curvature	strongly curved to geniculate
Shoulder width	medium
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**KWS TRINITY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	weak to medium
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**KWS TROMMEL****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

**KWS ULTIMATUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

## KWS 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 WEBBUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**KWS WRENUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	large to very large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak



**KWS YARIS****CHARACTERS IN DETAIL****Ear**

Colour:	white
Length:	medium to long
Density:	medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness:	medium to strong
Anthers - anthocyanin colouration	

**Lower Glume**

External surface roughness:	
Extent of internal hairs:	strong - group 3
Beak length:	long
Beak shape (curvature):	strongly curved
Shoulder	medium
Shoulder	elevated

**Lower Lemma**

Beak shape:	strongly curved
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**Grain**

Colour	red
Colouration with phenol:	medium to dark

**Straw**

Length:	medium
Wall thickness @ 20cms below ear:	very thin

**Glaucosity**

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	very strong
Culm neck:	strong to very strong
Ear - Glaucosity:	strong to very strong

**Plant growth characters**

Coleoptile-anthocyanin	absent or very weak
Plant - growth habit:	semi-prostrate
Time ear emergence:	late
Flag leaf - Anthocyanin colouration of auricles:	

**KWS ZENTARR****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**KWS ZYATT****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	rough
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

**LANCASTER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	weak to medium
Ear	weak to medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**LANGDALE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	rough
Extent of internal hairs	medium (2)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**LEAR****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ¼
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	medium to long
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

## WINTER WHEAT

AFP 1/2081

## LEEDS

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

#### Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	very dark

#### Straw

Length	short to medium
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium

#### Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**LG ALDANITI****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	very small to small
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	long to very long
Beak curvature	moderate to strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	slightly elevated to strongly elevated

**Lower lemma**

Beak curvature	
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**Grain**

Colour	reddish
Colouration with phenol	very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thick or filled

**Glaucosity**

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	very weak



**LG 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

**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 BLETCHLEY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium to long
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**LG CASSIDY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**LG DETROIT****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**LG FARRIER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong
Culm - neck	very strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**LG GENERATION****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	



**LG GILMORE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	tip only
Awns or scurs - length	very short to short
Apical rachis segment - convex face hairiness	large to very large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	very short to short
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	dark to very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate

**LG GRADUATE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	long
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**LG GRENDEL****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 1/2
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	strong (group 3)
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	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium

**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

## 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

#### Glaucoity

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 INTERSTELLAR****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**LG JIGSAW****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

## LG 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 MEDUSA****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	long
Beak curvature	strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	elev. to strongly elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**LG MOTOWN****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**LG NASHVILLE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

## LG 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

**LG PHAROS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**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

#### Glaucoisity

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

AFP 1/2836

## LG QUASAR

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	dark to very dark

#### Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

#### Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium

#### Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak



## Winter Wheat

AFP 1/3247

# 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	
Extent of internal hairs	strong (group 3)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	dark to very dark

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**LG RHYTHM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak (group 1)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**LG 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 SABERTOOTH****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	medium to long
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**LG SEEKER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

## LG 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 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 TICKET

## CHARACTERS IN DETAIL

## Ear

Colour	white
Length	short
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

## Lower glume

External surface	entire external surface rough
Extent of internal hairs	whole internal surface covered
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

## Lower lemma

Beak curvature	strongly curved to geniculate
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## Grain

Colour	red
Colouration with phenol	dark

## Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

## Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium to strong

## Plant growth characters

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**LG TYPHOON****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	strong to very strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**LG VOODOO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**Lion****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	small to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	horizontal to slightly elevated

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	reddish
Colouration with phenol	dark to very dark

**Straw**

Length	
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	



**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

**LUSTRE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	short
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	white
Colouration with phenol	dark to very dark

**Straw**

Length	medium
Wall thickness @20cms below ear	very thick or filled

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

## MAGISTER

## CHARACTERS IN DETAIL

## Ear

Colour:	white
Length:	medium
Density:	lax to medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness:	medium
Anthers - anthocyanin	

## Lower Glume

External surface roughness:	
Extent of internal hairs:	weak to medium -group 1 to 2
Beak length:	short
Beak shape (curvature):	moderately curved
Shoulder	medium to broad
Shoulder	straight

## Lower Lemma

Beak shape:

## Grain

Colour	red
Colouration with phenol:	dark

## Straw

Length:	medium to long
Wall thickness @ 20cms below ear:	very thin

## Glaucosity

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	strong
Culm neck:	strong
Ear - Glaucosity:	medium to strong

## Plant growth characters

Coleoptile-anthocyanin	weak
Plant - growth habit:	semi-prostrate
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	

**MARIBOSS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	very weak to weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	early
Flag leaf - anthocyanin of auricles	

**MARIS HUNTSMAN****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium to long
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	long to very long
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	weak

**MARIS WIDGEON****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	very lax to lax
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak - Group 1
Beak length	medium
Beak curvature	v.slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very long
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	weak

Variety Name: **Marlowe**

Crop:

Breeder's Reference: Sj9726005

AFP No: 1/2413

Breeder: Senova Ltd

Translated from: Danish

Origin:

Date: 23 March 2017

Code: MARL

Coleoptile-anthocyanin colouration:

Weak to medium

\*Plant - growth habit:

Semi prostrate

\*Time ear emergence:

Late

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

Medium to high

\*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:

Medium

\*Straw - wall thickness @ 20cms below ear:

Absent or very thin

\*Ear - Glaucosity:

Strong

Ear - Supernumerary spikelets - frequency:

\*Ear - Colour:

White

\*Ear - Shape (side profile):

Parallel

Ear - Length:

Short to medium

\*Ear - Density:

Dense to very dense

\*Awns or scurs - presence:

Scurs present

Awns or scurs - distribution:

\*Scurs at tip of ear - length:

Medium

\*Awns at tip of ear - length:

Medium

Lower glume - Beak length:

Long

Lower glume - Beak shape (curvature):

Strongly curved

Lower glume - Beak tip:

Long

Lower glume - Shoulder width:

Medium

Lower glume - Shoulder type:

Elevated

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Strong

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Moderately curved to strongly curved

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:

Light to medium

\*Seasonal type:

Winter

Extra characters:

\* = Characteristics which should always be included in the description of the variety.

28 March 2017

**MARSTON****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	strongly curved to geniculate
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	



Variety Name: **Maurizio**

Crop: Winter Wheat

Breeder's Reference: SZD 6374

AFP No:

Breeder: Saatzucht Donau GmbH

Translated from: Hungarian

Origin:

Date: 19 November 2018

Code: IZIO

**Coleoptile-anthocyanin colouration:**

Absent or very weak

\*Plant - growth habit:

Intermediate

\*Time ear emergence:

Early to medium

**Flag leaf - Anthocyanin colouration of auricles:**

Very low to low.

**Frequency of plants with recurved flag leaves:**

Strong

\*Flag leaf - Glaucosity of sheath:

Medium to strong

**Flag leaf - Glaucosity of leaf blade:**

**Anthers - anthocyanin colouration:**

Very strong to strong

**Glaucosity of neck:**

**Hairiness of uppermost node:**

\*Plant - height:

Thin

\*Straw - wall thickness @ 20cms below ear:

Strong

\*Ear - Glaucosity:

**Ear - Supernumerary spikelets - frequency:**

White

\*Ear - Colour:

Parallel

\*Ear - Shape (side profile):

Short to medium

**Ear - Length:**

Lax to medium

\*Ear - Density:

Awns present

\*Awns or scurs - presence:

**Awns or scurs - distribution:**

Long

\*Scurs at tip of ear - length:

\*Awns at tip of ear - length:

Short

**Lower glume - Beak length:**

Moderately curved

**Lower glume - Beak shape (curvature):**

**Lower glume - Beak tip:**

Medium

**Lower glume - Shoulder width:**

Sloping to slightly sloping

**Lower glume - Shoulder type:**

**Lower glume - External surface roughness:**

Weak

**Lower glume - Extent of internal hairs:**

**Lower glume - Internal imprint:**

**Lower lemma - Beak shape:**

**Lower lemma - Beak length-:**

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

\*Grain - colour:

Red

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

Medium to dark

**Grain - Colouration with phenol:**

\*Seasonal type:

Winter

**Extra characters:**

\* = Characteristics which should always be included in the description of the variety.

19 March 2019

**MAXWELL****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	very long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	strongly elevated with 2nd pt. present

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short to medium
Wall thickness @20cms below ear	very thick or filled

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	very weak to weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very early
Flag leaf - anthocyanin of auricles	

**MAYFLOWER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	short to medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong to very strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

## 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

**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

**MONROE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**MONTEREY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	



Variety Name: **MORTIMER**

Crop: Winter Wheat

Breeder's Reference: SC 2405

AFP No:

Breeder: Secobra

Translated from:

Origin:

Date: 15 May 2018

Code: MORT

<b>Coleoptile-anthocyanin colouration:</b>	Absent or very weak
<b>*Plant - growth habit:</b>	Semi prostrate
<b>*Time ear emergence:</b>	Medium
<b>Flag leaf - Anthocyanin colouration of auricles:</b>	
<b>Frequency of plants with recurved flag leaves:</b>	Very low ot low
<b>*Flag leaf - Glaucosity of sheath:</b>	Strong
<b>Flag leaf - Glaucosity of leaf blade:</b>	Strong to very strong
<b>Anthers - anthocyanin colouration:</b>	
<b>Glaucosity of neck:</b>	Strong
<b>Hairiness of uppermost node:</b>	
<b>*Plant - height:</b>	Short
<b>*Straw - wall thickness @ 20cms below ear:</b>	Absent or very thin
<b>*Ear - Glaucosity:</b>	Medium to strong
<b>Ear - Supernumerary spikelets - frequency:</b>	
<b>*Ear - Colour:</b>	White
<b>*Ear - Shape (side profile):</b>	Parallel
<b>Ear - Length:</b>	Long
<b>*Ear - Density:</b>	Lax to medium
<b>*Awns or scurs - presence:</b>	Present
<b>Awns or scurs - distibution:</b>	
<b>*Scurs at tip of ear - length:</b>	
<b>*Awns at tip of ear - length:</b>	Short to medium
<b>Lower glume - Beak length:</b>	Short
<b>Lower glume - Beak shape (curvature):</b>	Straight to slightly curved
<b>Lower glume - Beak tip:</b>	
<b>Lower glume - Shoulder width:</b>	Narrow to medium
<b>Lower glume - Shoulder type:</b>	
<b>Lower glume - External surface roughness:</b>	
<b>Lower glume - Extent of internal hairs:</b>	Very weak to weak
<b>Lower glume - Internal imprint:</b>	
<b>Lower lemma - Beak shape:</b>	
<b>Lower lemma - Beak length-:</b>	
<b>Lower lemma - Beak swelling:</b>	
<b>Apical rachis segement - convex face hairiness:</b>	Weak to medium
<b>*Grain - colour:</b>	Red
<b>Grain - Shape:</b>	
<b>Grain - Brush hair length in dorsal view:</b>	
<b>Grain - Colouration with phenol:</b>	Medium
<b>*Seasonal type:</b>	Winter
<b>Extra characters:</b>	

\* = Characteristics which should always be included in the description of the variety.

16 May 2018



**MOSAIC****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	strong (3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

Variety Name: **Moschus**

Crop: Winter wheat

Breeder's Reference: STRU 114017

AFP No:

Breeder: Dr Hermann Strube

Translated from: German

Origin:

Date: 19 November 2018

Code: MOSC

**Coleoptile-anthocyanin colouration:**

Strong to very strong

**\*Plant - growth habit:**

Intermediate

**\*Time ear emergence:**

Medium to late

**Flag leaf - Anthocyanin colouration of auricles:**

**Frequency of plants with recurved flag leaves:**

Low to medium

**\*Flag leaf - Glaucosity of sheath:**

Strong to very strong

**Flag leaf - Glaucosity of leaf blade:**

Strong to very strong

**Anthers - anthocyanin colouration:**

**Glaucosity of neck:**

Strong to very strong

**Hairiness of uppermost node:**

**\*Plant - height:**

Medium

**\*Straw - wall thickness @ 20cms below ear:**

Absent or very thin

**\*Ear - Glaucosity:**

Strong

**Ear - Supernumerary spikelets - frequency:**

**\*Ear - Colour:**

**\*Ear - Shape (side profile):**

Tapering

**Ear - Length:**

Medium to long

**\*Ear - Density:**

Lax to medium

**\*Awns or scurs - presence:**

Scurs present

**Awns or scurs - distribution:**

**\*Scurs at tip of ear - length:**

Very short to short

**\*Awns at tip of ear - length:**

**Lower glume - Beak length:**

Short

**Lower glume - Beak shape (curvature):**

Slightly to moderately curved

**Lower glume - Beak tip:**

**Lower glume - Shoulder width:**

Narrow to medium

**Lower glume - Shoulder type:**

Straight

**Lower glume - External surface roughness:**

**Lower glume - Extent of internal hairs:**

Weak

**Lower glume - Internal imprint:**

**Lower lemma - Beak shape:**

**Lower lemma - Beak length-:**

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

Medium to strong

**\*Grain - colour:**

Red

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

**Grain - Colouration with phenol:**

Medium

**\*Seasonal type:**

Winter

**Extra characters:**

\* = Characteristics which should always be included in the description of the variety.

19 March 2019

**MOULTON****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**MV FREDERICA****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	long to very long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**MYRIAD****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**MYSTIC CS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**NELSON****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak



## WINTER WHEAT

AFP 1/1658

# OAKLEY

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	smooth
Extent of internal hairs	medium to strong - Group 2+
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	very dark

#### Straw

Length	medium
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	strong
Ear	strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

## OLIVIN

**CHARACTERS IN DETAIL****Ear**

Colour:	white
Length:	medium
Density:	medium
Shape (side profile)	parallel sided
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	medium to strong
Anthers - anthocyanin	

**Lower Glume**

External surface roughness:	
Extent of internal hairs:	medium - group 2
Beak length:	very short to short
Beak shape (curvature):	strongly curved
Shoulder	narrow to medium
Shoulder	slightly sloping to straight

**Lower Lemma**

Beak shape:	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol:	medium to dark

**Straw**

Length:	medium to long
Wall thickness @ 20cms below ear:	thin

**Glaucosity**

Flag leaf - sheath:	strong
Flag leaf - blade (lower side):	medium
Culm neck:	medium
Ear - Glaucosity:	medium to strong

**Plant growth characters**

Coleoptile-anthocyanin	strong to very strong
Plant - growth habit:	intermediate to semi-prostrate
Time ear emergence:	late
Flag leaf - Anthocyanin colouration of auricles:	absent or very weak

**OLYMPUS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

Variety Name: **Opus**

Crop: Winter Wheat

Breeder's Reference: PBIS 99/70

AFP No:

Breeder: Erhardt Eger

Translated from: German

Origin:

Date: 23 November 2001

Code: OPUS

**Coleoptile-anthocyanin colouration:**

absent or very weak

**\*Plant - growth habit:**

intermediate to semi-prostrate

**\*Time ear emergence:**

medium to late

**Flag leaf - Anthocyanin colouration of auricles:**

absent or very weak

**Frequency of plants with recurved flag leaves:**

very low to low

**\*Flag leaf - Glaucosity of sheath:**

strong

**Flag leaf - Glaucosity of leaf blade:**

medium to strong

**Anthers - anthocyanin colouration:**

**Glaucosity of neck:**

strong

**Hairiness of uppermost node:**

**\*Plant - height:**

medium

**\*Straw - wall thickness @ 20cms below ear:**

very thin

**\*Ear - Glaucosity:**

medium

**Ear - Supernumerary spikelets - frequency:**

**\*Ear - Colour:**

white

**\*Ear - Shape (side profile):**

tapering

**Ear - Length:**

medium

**\*Ear - Density:**

medium

**\*Awns or scurs - presence:**

scurs present

**Awns or scurs - distribution:**

**\*Scurs at tip of ear - length:**

short

**\*Awns at tip of ear - length:**

**Lower glume - Beak length:**

**Lower glume - Beak shape (curvature):**

**Lower glume - Beak tip:**

**Lower glume - Shoulder width:**

**Lower glume - Shoulder type:**

**Lower glume - External surface roughness:**

**Lower glume - Extent of internal hairs:**

**Lower glume - Internal imprint:**

**Lower lemma - Beak shape:**

**Lower lemma - Beak length-:**

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

**\*Grain - colour:**

winter

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

**Grain - Colouration with phenol:**

**\*Seasonal type:**

**Extra characters:**

\* = Characteristics which should always be included in the description of the variety.

06 May 2020

**ORATOR****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	medium to long
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium to strong
Ear	weak to medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**ORBIT****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**OSMIUM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	rough
Extent of internal hairs	weak (group 1)
Beak length	short
Beak curvature	v.slightly curved
Shoulder width	medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**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



**PANACEA****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**PANORAMA****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	weak to medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**PHILOSOPHER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{3}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

## PIRENEO

## CHARACTERS IN DETAIL

## Ear

Colour:	white
Length:	medium
Density:	medium to dense
Shape (side profile)	tapering
Awns or scurs - presence:	awns present
Awns or scurs - distribution:	
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness:	medium
Anthers - anthocyanin	

## Lower Glume

External surface roughness:	
Extent of internal hairs:	medium - group 2
Beak length:	long to very long
Beak shape (curvature):	slightly curved
Shoulder	narrow
Shoulder	straight

## Lower Lemma

Beak shape:

## Grain

Colour	red
Colouration with phenol:	medium

## Straw

Length:	medium
Wall thickness @ 20cms below ear:	thin

## Glaucosity

Flag leaf - sheath:	weak
Flag leaf - blade (lower side):	very weak to weak
Culm neck:	weak to medium
Ear - Glaucosity:	weak

## Plant growth characters

Coleoptile-anthocyanin	
Plant - growth habit:	intermediate
Time ear emergence:	early to late
Flag leaf - Anthocyanin colouration of auricles:	

Variety Name: **PONTICUS**

Crop: Winter Wheat

Breeder's Reference: STRU 114010

AFP No:

Breeder: Dr Hermann Strube

Translated from: German

Origin:

Date: 14 November 2017

Code: PONT

<b>Coleoptile-anthocyanin colouration:</b>	Strong
<b>*Plant - growth habit:</b>	Intermediate to semi-prostrate
<b>*Time ear emergence:</b>	Medium to late
<b>Flag leaf - Anthocyanin colouration of auricles:</b>	
<b>Frequency of plants with recurved flag leaves:</b>	Very low to low
<b>*Flag leaf - Glaucosity of sheath:</b>	Very strong
<b>Flag leaf - Glaucosity of leaf blade:</b>	Very strong
<b>Anthers - anthocyanin colouration:</b>	
<b>Glaucosity of neck:</b>	Very strong
<b>Hairiness of uppermost node:</b>	
<b>*Plant - height:</b>	Strong to medium
<b>*Straw - wall thickness @ 20cms below ear:</b>	Absent or very thin
<b>*Ear - Glaucosity:</b>	Strong
<b>Ear - Supernumerary spikelets - frequency:</b>	
<b>*Ear - Colour:</b>	White
<b>*Ear - Shape (side profile):</b>	Tapering
<b>Ear - Length:</b>	Medium to long
<b>*Ear - Density:</b>	Lax
<b>*Awns or scurs - presence:</b>	Scurs present
<b>Awns or scurs - distribution:</b>	
<b>*Scurs at tip of ear - length:</b>	Very short to short
<b>*Awns at tip of ear - length:</b>	
<b>Lower glume - Beak length:</b>	Very short to short
<b>Lower glume - Beak shape (curvature):</b>	
<b>Lower glume - Beak tip:</b>	
<b>Lower glume - Shoulder width:</b>	Narrow to medium
<b>Lower glume - Shoulder type:</b>	Slightly sloping
<b>Lower glume - External surface roughness:</b>	
<b>Lower glume - Extent of internal hairs:</b>	Weak
<b>Lower glume - Internal imprint:</b>	
<b>Lower lemma - Beak shape:</b>	
<b>Lower lemma - Beak length-:</b>	
<b>Lower lemma - Beak swelling:</b>	
<b>Apical rachis segment - convex face hairiness:</b>	Medium
<b>*Grain - colour:</b>	Red
<b>Grain - Shape:</b>	
<b>Grain - Brush hair length in dorsal view:</b>	
<b>Grain - Colouration with phenol:</b>	Medium
<b>*Seasonal type:</b>	Winter
<b>Extra characters:</b>	

\* = Characteristics which should always be included in the description of the variety.

28 March 2018

Variety Name: **PRAKTIK**

Crop:

Breeder's Reference:

AFP No: 1/

Breeder: RAGT

Translated from:

Origin: GERMANY

Date: 22 October 2012

Code: PRAK

Coleoptile-anthocyanin colouration:

ABSENT OR VERY WEAK

\*Plant - growth habit:

INTERMEDIATE TO SEMI-PROSTRATE

\*Time ear emergence:

MEDIUM TO LATE

Flag leaf - Anthocyanin colouration of auricles:

ABSENT OR VERY LOW

Frequency of plants with recurved flag leaves:

MEDIUM

\*Flag leaf - Glaucosity of sheath:

MEDIUM

Flag leaf - Glaucosity of leaf blade:

Anthers - anthocyanin colouration:

MEDIUM TO STRONG

Glaucosity of neck:

Hairiness of uppermost node:

\*Plant - height:

SHORT

\*Straw - wall thickness @ 20cms below ear:

very thin

\*Ear - Glaucosity:

MEDIUM

Ear - Supernumerary spikelets - frequency:

\*Ear - Colour:

WHITE

\*Ear - Shape (side profile):

TAPERING

Ear - Length:

SHORT TO MEDIUM

\*Ear - Density:

MEDIUM

\*Awns or scurs - presence:

SCURS PRESENT

Awns or scurs - distribution:

\*Scurs at tip of ear - length:

VERY SHORT TO SHORT

\*Awns at tip of ear - length:

Lower glume - Beak length:

VERY SHORT TO SHORT

Lower glume - Beak shape (curvature):

STRAIGHT

Lower glume - Beak tip:

SLIGHTLY CURVED

Lower glume - Shoulder width:

NARROW TO MEDIUM

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

MEDIUM

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

MEDIUM

\*Grain - colour:

RED

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

DARK

\*Seasonal type:

WINTER TYPE

Extra characters:

STRAW:PILTH IN CROSS SECTION -  
VERY THIN

\* = Characteristics which should always be included in the description of the variety.

30 March 2015

## WINTER WHEAT

AFP 1/2033

# QI

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	

#### Lower glume

External surface	smooth
Extent of internal hairs	medium to strong - Group 2+
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

#### Lower lemma

Beak curvature	slightly to moderately curved
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#### Grain

Colour	red
Colouration with phenol	dark

#### Straw

Length	short to medium
Wall thickness @20cms below ear	medium

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**CHARACTERS IN DETAIL****Ear**

Colour:	white
Length:	short to medium
Density:	medium to dense
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness:	weak to medium
Anthers - anthocyanin	

**Lower Glume**

External surface roughness:	medium
Extent of internal hairs:	medium - group 2
Beak length:	medium
Beak shape (curvature):	moderately curved
Shoulder	broad
Shoulder	elevated

**Lower Lemma**

Beak shape:	moderately curved to strongly curved
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**Grain**

Colour	red
Colouration with phenol:	medium to dark

**Straw**

Length:	short to medium
Wall thickness @ 20cms below ear:	thin

**Glaucosity**

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	medium to strong
Culm neck:	weak
Ear - Glaucosity:	medium

**Plant growth characters**

Coleoptile-anthocyanin	medium
Plant - growth habit:	intermediate
Time ear emergence:	medium
Flag leaf - Anthocyanin colouration of auricles:	



## 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

#### Glaucosity

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

**RAMSAY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	short
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

## RAPSODIA

## CHARACTERS IN DETAIL

## Ear

Colour:	white
Length:	short to medium
Density:	medium
Shape (side profile)	tapering
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	short
Apical rachis segment - convex face hairiness:	weak to medium
Anthers - anthocyanin	

## Lower Glume

External surface roughness:	smooth
Extent of internal hairs:	medium to strong - group 2 to 3
Beak length:	short
Beak shape (curvature):	moderately curved
Shoulder	medium
Shoulder	straight

## Lower Lemma

Beak shape:	slightly curved
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## Grain

Colour	red
Colouration with phenol:	medium

## Straw

Length:	short
Wall thickness @ 20cms below ear:	very thin to thin

## Glaucosity

Flag leaf - sheath:	strong to very strong
Flag leaf - blade (lower side):	medium to strong
Culm neck:	medium to strong
Ear - Glaucosity:	medium to strong

## Plant growth characters

Coleoptile-anthocyanin	strong
Plant - growth habit:	semi-prostrate to prostrate
Time ear emergence:	medium
Flag leaf - Anthocyanin colouration of auricles:	absent or very weak

## WINTER WHEAT

AFP 1/1994

# RAZZANO

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs – distribution	
Awns or scurs - length:	very short
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

#### Lower glume

External surface	
Extent of internal hairs	medium to strong - Group 2+
Beak length	short
Beak curvature	v.slightly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

#### Lower lemma

Beak curvature	
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#### Grain

Colour	red
Colouration with phenol	medium to dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium to strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**REFLECTION****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

## WINTER WHEAT

AFP 1/1988

## RELAY

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

#### Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

#### Lower lemma

Beak curvature	slightly curved
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#### Grain

Colour	red
Colouration with phenol	dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**REVELATION****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ¼
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**RGT ADVENTURE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	



**RGT ANELLE****CHARACTERS IN DETAIL****Ear**

Colour	coloured
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	very short to short
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong to very strong
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT BAIRSTOW****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	very strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

## RGT BAKEWELL

### CHARACTERS IN DETAIL

#### Grain

Colour	reddish
Colouration with phenol	medium to dark

#### Plant

Anthocyanin colouration of coleoptile	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
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	moderately 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	very short to short
Colour	white
Shape in profile	parallel sided
Apical rachis hairiness on convex surface	medium to large
Awns or scurs - distribution	upper 1/4

**RGT BLOSSOM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**RGT BOWEN****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**RGT COOK****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	strong to whole surface
Beak length	long to very long
Beak curvature	strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT CONVERSION****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium
Beak length	long
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	weak to medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**RGT DALLAGLIO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
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	very short to 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	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak



**RGT DOMINICI****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	large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium to broad
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium

**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

**RGT DRAX****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	medium

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

## RGT 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

#### Glaucoisity

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 FLINTOFF****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	whole internal surface covered
Beak length	very long
Beak curvature	moderate to strongly curved
Shoulder width	very narrow to narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT GALACTUS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

Variety Name: **RGT GRADIENT**

Crop: **WW**

**Breeder's Reference:** RW41394

**AFP No:**

**Breeder:** R2n sas

**Translated from:** Danish

**Origin:** Trident + Gravitass

**Date:** 22 March 2016

**Code:** RGTG

**Coleoptile-anthocyanin colouration:**

Very weak to weak

**\*Plant - growth habit:**

Prostrate

**\*Time ear emergence:**

Medium

**Flag leaf - Anthocyanin colouration of auricles:**

Low to medium

**Frequency of plants with recurved flag leaves:**

Strong

**\*Flag leaf - Glaucosity of sheath:**

Medium to strong

**Flag leaf - Glaucosity of leaf blade:**

**Anthers - anthocyanin colouration:**

Strong

**Glaucosity of neck:**

**Hairiness of uppermost node:**

Short to medium

**\*Plant - height:**

Absent or Very thin

**\*Straw - wall thickness @ 20cms below ear:**

Medium to strong

**\*Ear - Glaucosity:**

**Ear - Supernumerary spikelets - frequency:**

White

**\*Ear - Colour:**

Tapering

**\*Ear - Shape (side profile):**

Short to medium

**Ear - Length:**

Medium

**\*Ear - Density:**

Present

**\*Awns or scurs - presence:**

**Awns or scurs - distribution:**

Long

**\*Scurs at tip of ear - length:**

**\*Awns at tip of ear - length:**

Medium to long

**Lower glume - Beak length:**

Slightly curved

**Lower glume - Beak shape (curvature):**

**Lower glume - Beak tip:**

Medium

**Lower glume - Shoulder width:**

Elevated

**Lower glume - Shoulder type:**

**Lower glume - External surface roughness:**

Medium

**Lower glume - Extent of internal hairs:**

**Lower glume - Internal imprint:**

Moderately curved

**Lower lemma - Beak shape:**

**Lower lemma - Beak length-:**

**Lower lemma - Beak swelling:**

**Apical rachis segment - convex face hairiness:**

Weak to medium

**\*Grain - colour:**

Red

**Grain - Shape:**

**Grain - Brush hair length in dorsal view:**

Dark

**Grain - Colouration with phenol:**

Winter

**\*Seasonal type:**

**Extra characters:**

\* = Characteristics which should always be included in the description of the variety.

28 March 2018

**RGT GRAVITY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**RGT 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 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 HOWLEY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	large to very large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated to strongly elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT ILLUSTRIOUS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	rough
Extent of internal hairs	medium to strong (2+)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**RGT KNIGHTSBRIDGE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

**RGT KOI****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	slightly sloping

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT LANTERN****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

## RGT 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 MARLBOROUGH****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	medium to long
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**RGT 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

**RGT NONU****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	rough
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	horizontal to slightly elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	dark to very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT PADDINGTON****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

**RGT PARISSSE****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	very long
Apical rachis segment - convex face hairiness	small 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	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

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT PEMBROKE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**RGT QUICKSILVER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT RASHID****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	absent or very weak



**RGT SACRAMENTO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	long to very long
Beak curvature	slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	slightly sloping

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	light

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**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 SCRUMMAGE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**RGT SORCERER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	
Awns or scurs - length	n/a
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

**RGT 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 TINDALL****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long to very 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	
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
Shoulder shape	slightly elevated to strongly elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT UNIVERSE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	



**RGT VENOM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT WASABI****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT WESTMINSTER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

**RGT WILKINSON****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT WOLVERINE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	short
Beak curvature	slightly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak

**RGT ZINZAN****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	small to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	strong (group 3)
Beak length	short to medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**RIBAND****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak (1)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	medium
Ear	weak to medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	absent or very weak

**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



**ROADSTER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	
Awns or scurs - length	n/a
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	long to very long
Beak curvature	moderately curved
Shoulder width	very narrow to narrow
Shoulder shape	straight

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	light

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**ROBIGUS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	weak

**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

**ROWLING****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	short to medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**ROYSTON****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	short to medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	weak to medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**CHARACTERS IN DETAIL**

**Grain**

Colour	reddish
Colouration with phenol	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	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	very weak to weak
Culm - neck	weak to medium

**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	strongly curved
Extent of internal hairs	medium (Group 2)
External surface roughness	slightly rough

**Ear**

Density	dense
Length (excluding awns or scurs)	medium to long
Awns or scurs - presence	scurs present
Awns or scurs - length	very long
Colour	white
Shape in profile	parallel sided
Awns or scurs - distribution	upper 3/4

**RUSKIN****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

## WINTER WHEAT

AFP 1/1649

# SAHARA

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	medium

#### Straw

Length	medium to long
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	weak
Ear	weak to medium

#### Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	



**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	

**SAVELLO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	very late
Flag leaf - anthocyanin of auricles	

**SCOUT****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ¼
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	straight to slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	weak to medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**SCRIBE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**SHABRAS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	strong (group 3)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	strongly elevated with 2nd pt. present

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**SHEPHERD****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**SHERLOCK****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	long to very long
Beak curvature	moderate to strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

## WINTER WHEAT

AFP 1/1951

# SHIRE

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	smooth
Extent of internal hairs	weak to medium (1+)
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

#### Lower lemma

Beak curvature	slightly to moderately curved
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#### Grain

Colour	red
Colouration with phenol	very dark

#### Straw

Length	short
Wall thickness @20cms below ear	absent or very thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	



**SKYFALL****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length:	very long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	long to very long
Beak curvature	v.slightly curved
Shoulder width	very narrow to narrow
Shoulder shape	elev. to elev with 2nd point

**Lower lemma**

Beak curvature	straight
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**SMUGGLER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	entire external surface rough
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

Length	medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	very strong
Plant - growth habit	intermediate
Time of ear emergence	early
Flag leaf - anthocyanin of auricles	absent or very weak

**SOISSONS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	absent to weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	weak - Group 1
Beak length	
Beak curvature	
Shoulder width	narrow
Shoulder shape	slightly sloping

**Lower lemma**

Beak curvature	straight
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**Grain**

Colour	red
Colouration with phenol	

**Straw**

Length	
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	weak
Culm - neck	absent or very weak
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	very early to early
Flag leaf - anthocyanin of auricles	absent or very weak

## WINTER WHEAT

AFP 1/2132

# SOLACE

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	short to medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	medium
Shoulder shape	elevated

#### Lower lemma

Beak curvature	moderately curved
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#### Grain

Colour	red
Colouration with phenol	very dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**SOLSTICE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	straight

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	
Culm - neck	strong to very strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	very weak

## WINTER WHEAT

AFP 1/2178

# SOLTEK

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium
Density	dense
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

#### Lower lemma

Beak curvature	moderately to strongly curved
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#### Grain

Colour	red
Colouration with phenol	dark

#### Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermedate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

Variety Name: **SORRIAL**

Crop: WINTER WHEAT

Breeder's Reference:

AFP No:

Breeder: CAUSSADE SEMENCES SA

Translated from:

Origin: FRANCE

Date: 03 June 2013

Code: SORRI

Coleoptile-anthocyanin colouration:

MEDIUM

\*Plant - growth habit:

INTERMEDIATE TO SEMI-PROSTRATE

\*Time ear emergence:

EARLY TO MEDIUM

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

VERY LOW TO LOW

\*Flag leaf - Glaucosity of sheath:

VERY STRONG

Flag leaf - Glaucosity of leaf blade:

STRONG TO VERY STRONG

Anthers - anthocyanin colouration:

Glaucosity of neck:

STRONG TO VERY STRONG

Hairiness of uppermost node:

\*Plant - height:

SHORT

\*Straw - wall thickness @ 20cms below ear:

VERY THIN

\*Ear - Glaucosity:

STRONG TO VERY STRONG

Ear - Supernumerary spikelets - frequency:

\*Ear - Colour:

WHITE

\*Ear - Shape (side profile):

PARALLEL SIDED

Ear - Length:

MEDIUM TO LONG

\*Ear - Density:

DENSE

\*Awns or scurs - presence:

SCURS PRESENT

Awns or scurs - distribution:

\*Scurs at tip of ear - length:

VERY SHORT TO SHORT

\*Awns at tip of ear - length:

Lower glume - Beak length:

Lower glume - Beak shape (curvature):

Lower glume - Beak tip:

MEDIUM TO BROAD

Lower glume - Shoulder width:

STRAIGHT

Lower glume - Shoulder type:

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

WEAK

Lower glume - Internal imprint:

Lower lemma - Beak shape:

SLIGHTLY CURVED

Lower lemma - Beak length-:

SHORT

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

WEAK TO MEDIUM

\*Grain - colour:

RED

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

MEDIUM

\*Seasonal type:

WINTER

Extra characters:

\* = Characteristics which should always be included in the description of the variety.

30 March 2015

**SPEARHEAD****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	short to medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	very strong
Culm - neck	very strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak



**SPOCK****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	strong to very strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**SPYDER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

## WINTER WHEAT

AFP 1/1941

# STIGG

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	short to medium
Density	very dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

#### Lower lemma

Beak curvature	strongly curved
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#### Grain

Colour	red
Colouration with phenol	medium to dark

#### Straw

Length	short
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	absent or very weak

#### Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**STRATOSPHERE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium
Flag leaf- blade (lower side)	weak
Culm - neck	medium
Ear	weak to medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**SWALLOW****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium to strong (group 2+)
Beak length	long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	very short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong to very strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

## 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 COACH****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	very short to short
Apical rachis segment - convex face hairiness	large to very large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	slightly elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

## SY EPSON

## CHARACTERS IN DETAIL

## Ear

Colour:	white
Length:	long
Density:	lax to medium
Shape (side profile)	parallel sided
Awns or scurs - presence:	scurs present
Awns or scurs - distribution:	
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness:	very weak
Anthers - anthocyanin	

## Lower Glume

External surface roughness:	
Extent of internal hairs:	weak to medium - group 1 to 2
Beak length:	short to medium
Beak shape (curvature):	slightly to moderately curved
Shoulder	narrow to medium
Shoulder	slightly sloping or straight

## Lower Lemma

Beak shape:

## Grain

Colour	red
Colouration with phenol:	medium

## Straw

Length:	
Wall thickness @ 20cms below ear:	very thin

## Glaucosity

Flag leaf - sheath:	medium to strong
Flag leaf - blade (lower side):	medium
Culm neck:	medium to strong
Ear - Glaucosity:	medium to strong

## Plant growth characters

Coleoptile-anthocyanin	absent to very weak
Plant - growth habit:	semi-prostrate
Time ear emergence:	medium to late
Flag leaf - Anthocyanin colouration of auricles:	



**SY GRIFFIN****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermediate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	

**SY INSITOR****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

**SY LOKI****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	short to medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately to strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**SY MEDEA****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	strong to whole surface
Beak length	very short to short
Beak curvature	slightly curved
Shoulder width	medium to broad
Shoulder shape	elevated

**Lower lemma**

Beak curvature	
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**Grain**

Colour	red
Colouration with phenol	dark to very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	absent or very weak
Flag leaf- blade (lower side)	absent or very weak
Culm - neck	absent or very weak
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

## 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

#### Glaucoisity

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

**THEODORE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	very weak to weak
Anthers - anthocyanin colouration	

**Lower glume**

External surface	smooth
Extent of internal hairs	weak to medium (group 1+)
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	medium

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**TIMARU****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	long
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	tip only
Awns or scurs - length:	very short
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**TOBY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	dense to very dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium to strong (group 2+)
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	medium

**Straw**

Length	short
Wall thickness @20cms below ear	medium

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	strong to very strong
Ear	absent or very weak

**Plant growth characters**

Coleoptile - anthocyanin colouration	very weak to weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late to very late
Flag leaf - anthocyanin of auricles	absent or very weak



## TORCH

## CHARACTERS IN DETAIL

## Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	

## Lower glume

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow
Shoulder shape	elevated

## Lower lemma

Beak curvature	slightly curved
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## Grain

Colour	red
Colouration with phenol	dark

## Straw

Length	short to medium
Wall thickness @20cms below ear	medium

## Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

## Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

**TORPHINS****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short to medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	

**Lower glume**

External surface	rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

## TREASURE

## CHARACTERS IN DETAIL

## Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

## Lower glume

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

## Lower lemma

Beak curvature	strongly curved to geniculate
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## Grain

Colour	red
Colouration with phenol	very dark

## Straw

Length	very short
Wall thickness @20cms below ear	absent or very thin

## Glaucosity

Flag leaf - sheath	very strong
Flag leaf- blade (lower side)	strong to very strong
Culm - neck	very strong
Ear	medium to strong

## Plant growth characters

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

## TRENDY

### CHARACTERS IN DETAIL

#### Grain

Colour	reddish
Colouration with phenol	medium

#### 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
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	medium
Shape of beak	strongly 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	small to medium
Awns or scurs - distribution	upper 1/4

**TUXEDO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium to strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

## WINTER WHEAT

AFP 1/2125

# TWISTER

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	short to medium
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper ½
Awns or scurs - length:	long to very long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium to long
Beak curvature	moderate to strongly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

#### Lower lemma

Beak curvature	moderately to strongly curved
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#### Grain

Colour	red
Colouration with phenol	very dark

#### Straw

Length	medium
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium

#### Plant growth characters

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

## UNIVERSAL

## CHARACTERS IN DETAIL

## Ear

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

## Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	medium
Shoulder shape	straight to elevated

## Lower lemma

Beak curvature	strongly curved
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## Grain

Colour	red
Colouration with phenol	dark

## Straw

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

## Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	medium to strong
Ear	medium to strong

## Plant growth characters

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

**VELOCITY****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	tip only
Awns or scurs - length	short to medium
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium to long
Beak curvature	strongly curved to geniculate
Shoulder width	medium to broad
Shoulder shape	strongly elevated with 2nd pt. present

**Lower lemma**

Beak curvature	geniculate
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	weak to medium
Culm - neck	medium
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	early to medium
Flag leaf - anthocyanin of auricles	



**VERSO****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 3/4
Awns or scurs - length	long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium (group 2)
Beak length	medium
Beak curvature	v.slightly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	straight to slightly curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	absent or very thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium to strong
Culm - neck	strong
Ear	strong to very strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**VISCOUNT****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	medium to long
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	moderately curved
Shoulder width	medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium to strong
Ear	medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	strong
Plant - growth habit	semi-erect to intermediate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	

Variety Name: **Vulkan**

Crop: Winter Wheat

Breeder's Reference:

AFP No:

Breeder: Poljoprivredni Institut Osijek

Translated from: Croatian

Origin:

Date: 11 March 2014

Code: VULK

Coleoptile-anthocyanin colouration:

\*Plant - growth habit:

Semi erect to intermediate

\*Time ear emergence:

Very early to early

Flag leaf - Anthocyanin colouration of auricles:

Frequency of plants with recurved flag leaves:

Low

\*Flag leaf - Glaucosity of sheath:

Medium

Flag leaf - Glaucosity of leaf blade:

Very weak to weak

Anthers - anthocyanin colouration:

Glaucosity of neck:

Weak to medium

Hairiness of uppermost node:

\*Plant - height:

Medium

\*Straw - wall thickness @ 20cms below ear:

Very thick or filled

\*Ear - Glaucosity:

Ear - Supernumerary spikelets - frequency:

\*Ear - Colour:

White

\*Ear - Shape (side profile):

Parallel sided

Ear - Length:

Very short

\*Ear - Density:

Medium

\*Awns or scurs - presence:

Present

Awns or scurs - distribution:

\*Scurs at tip of ear - length:

Medium

\*Awns at tip of ear - length:

Medium

Lower glume - Beak length:

Long to very long

Lower glume - Beak shape (curvature):

Slightly curved

Lower glume - Beak tip:

Lower glume - Shoulder width:

Absent or very narrow

Lower glume - Shoulder type:

Sloping

Lower glume - External surface roughness:

Lower glume - Extent of internal hairs:

Medium

Lower glume - Internal imprint:

Lower lemma - Beak shape:

Lower lemma - Beak length-:

Lower lemma - Beak swelling:

Apical rachis segment - convex face hairiness:

Medium

\*Grain - colour:

Red

Grain - Shape:

Grain - Brush hair length in dorsal view:

Grain - Colouration with phenol:

\*Seasonal type:

Winter

Extra characters:

**WARRIOR****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	short
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/4
Awns or scurs - length	medium to long
Apical rachis segment - convex face hairiness	weak to medium
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	weak to medium - Group 1+
Beak length	medium
Beak curvature	slightly curved
Shoulder width	narrow to medium
Shoulder shape	elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	n/a

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	medium
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium to strong
Plant - growth habit	semi-erect
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**WEAVER****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	long
Apical rachis segment - convex face hairiness	strong
Anthers - anthocyanin colouration	

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	elevated

**Lower lemma**

Beak curvature	strongly curved
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**Grain**

Colour	red
Colouration with phenol	very dark

**Straw**

Length	short to medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	medium to strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	absent to weak
Plant - growth habit	intermediate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	

## WELCOME

## CHARACTERS IN DETAIL

## Ear

Colour	white
Length	short to medium
Density	medium to dense
Shape-side profile	parallel sided
Awns or scurs - presence	awns present
Awns or scurs - distribution	whole length
Awns or scurs - length	very long
Apical rachis segment - convex face hairiness	absent or very weak
Anthers - anthocyanin colouration	absent

## Lower glume

External surface	smooth
Extent of internal hairs	medium (2)
Beak length	very long
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	elev. to elev with 2nd point

## Lower lemma

Beak curvature	straight
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## Grain

Colour	red
Colouration with phenol	very dark

## Straw

Length	medium
Wall thickness @20cms below ear	absent or very thin

## Glaucosity

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	medium
Culm - neck	medium
Ear	medium to strong

## Plant growth characters

Coleoptile - anthocyanin colouration	weak to medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	

**WELFORD****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium
Density	medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	medium
Apical rachis segment - convex face hairiness	medium to strong
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight to elevated

**Lower lemma**

Beak curvature	moderately curved
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**Grain**

Colour	red
Colouration with phenol	dark

**Straw**

Length	short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	weak to medium

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	medium
Flag leaf - anthocyanin of auricles	absent or very weak

## WINTER WHEAT

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# XI19

### CHARACTERS IN DETAIL

#### Ear

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - length:	short
Awns or scurs - distribution	tip only
Apical rachis segment - convex face hairiness	medium
Anthers - anthocyanin colouration	absent

#### Lower glume

External surface	smooth
Extent of internal hairs	strong - Group 3
Beak length	medium
Beak curvature	moderately curved
Shoulder width	narrow
Shoulder shape	straight

#### Lower lemma

Beak curvature	moderately to strongly curved
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#### Grain

Colour	red
Colouration with phenol	dark

#### Straw

Length	medium
Wall thickness @20cms below ear	thin

#### Glaucosity

Flag leaf - sheath	strong
Flag leaf- blade (lower side)	
Culm - neck	strong
Ear	strong to very strong

#### Plant growth characters

Coleoptile - anthocyanin colouration	absent or very weak
Plant - growth habit	intermed. to semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	very weak



**ZEBEDEE****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	lax to medium
Shape-side profile	parallel sided
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper $\frac{1}{4}$
Awns or scurs - length:	short to medium
Apical rachis segment - convex face hairiness	weak
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	smooth
Extent of internal hairs	medium - Group 2
Beak length	medium
Beak curvature	slight to moderately curved
Shoulder width	narrow to medium
Shoulder shape	straight

**Lower lemma**

Beak curvature	slightly to moderately curved
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**Grain**

Colour	red
Colouration with phenol	light to medium

**Straw**

Length	medium
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	medium to strong
Flag leaf- blade (lower side)	
Culm - neck	medium to strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	medium
Plant - growth habit	intermediate
Time of ear emergence	medium to late
Flag leaf - anthocyanin of auricles	absent or very weak

**ZOOM****CHARACTERS IN DETAIL****Ear**

Colour	white
Length	medium to long
Density	medium
Shape-side profile	tapering
Awns or scurs - presence	scurs present
Awns or scurs - distribution	upper 1/2
Awns or scurs - length	long to very long
Apical rachis segment - convex face hairiness	medium to large
Anthers - anthocyanin colouration	absent

**Lower glume**

External surface	slightly rough
Extent of internal hairs	strong (group 3)
Beak length	medium to long
Beak curvature	strongly curved
Shoulder width	narrow
Shoulder shape	slightly elevated to strongly elevated

**Lower lemma**

Beak curvature	strongly curved to geniculate
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**Grain**

Colour	reddish
Colouration with phenol	medium to dark

**Straw**

Length	very short to short
Wall thickness @20cms below ear	thin

**Glaucosity**

Flag leaf - sheath	strong to very strong
Flag leaf- blade (lower side)	strong
Culm - neck	strong
Ear	strong

**Plant growth characters**

Coleoptile - anthocyanin colouration	weak
Plant - growth habit	semi-prostrate
Time of ear emergence	late
Flag leaf - anthocyanin of auricles	absent or very weak

## WINTER WHEAT

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# 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	