

**EXTERNAL SURFACE SMOOTH TO SLIGHTLY ROUGH, INTERNAL GROUP HAIRS I TO II  
STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
			Internal Hairs	Beak		Shoulder		
	Density	Glauc.	Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>CRUSOE</b>	M	A	II <sup>+</sup>	Medium to short  Medium	Slight	Medium to wide  Elevated	Long  Moderate Medium to weak	AR segment convex hairs moderate Uppermost node hairs moderate
<b>ISTABRAQ</b>	M	M	I <sup>+</sup> to II sp	Medium to long  Medium	Moderate to strong	Narrow to medium  Square to slightly elevated	Medium to long Slight to moderate Weak	AR segment convex hairs sparse Uppermost node hairs sparse to moderate
<b>TWISTER</b>	L to M	M	II	Medium  Sharp	Moderate	Medium  Elevated	Medium to long Strong Weak	AR segment convex hairs sparse Uppermost node hairs moderate to sparse
<b>VISCOUNT</b>	M	M	I	Medium  Medium	Moderate	Medium  Elevated	Long Moderate Weak	AR segment convex hairs moderate. Uppermost node hairs sparse

**EXTERNAL SURFACE SMOOTH TO SLIGHTLY ROUGH, INTERNAL GROUP HAIRS III  
STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
			Internal Hairs	Beak		Shoulder		
	Density	Glauc.	Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>REFLECTION</b>	M	M to S	III	Medium  Medium	Moderate	Medium  Elevated	Medium Moderate to strong Medium	AR segment convex hairs absent to very sparse Uppermost node hairs moderate

**EXTERNAL SURFACE ROUGH, INTERNAL GROUP HAIRS I TO II  
STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>COSTELLO</b>	M	M to S	I <sup>+</sup> to II sp	Short Medium	Strong	Narrow Elevated	Medium Strong Weak	AR segment convex hairs sparse Uppermost node hairs sparse
<b>GRAFTON</b>	M to D	S	II	Medium to short Sharp	Moderate	Medium to wide Square	Medium to long Moderate Weak	AR segment convex hairs numerous Uppermost node hairs absent to sparse
<b>KWS TRINITY</b>	L to M	S	I <sup>+</sup> to II sp	Medium Medium	Strong	Medium Elevated	Short to medium Moderate to strong Strong	AR segment convex hairs sparse Uppermost node hairs sparse
<b>RGT ILLUSTRIOUS</b> (new 2017)	M	M to S	II <sup>+</sup>	Medium Medium	Slight to moderate	Medium to narrow Elevated	Medium to long Strong Medium	AR segment convex hairs moderate to numerous Uppermost node hairs sparse
<b>KWS SISKIN</b> (new 2017)	M	S	I	Short to medium Medium	Moderate	Narrow Elevated	Medium Moderate Medium	AR segment convex hairs absent to very sparse Uppermost node hairs moderate
<b>JB DIEGO</b>	M	M	I	Short Sharp	Moderate	Medium to wide Square to slightly elevated	Medium to short Moderate Medium	AR segment convex hairs moderate to numerous Uppermost node hairs numerous
<b>EVOLUTION</b>	M	M to S	I <sup>+</sup>	Medium Medium	Strong	Medium to wide Elevated	Medium Strong to geniculate Medium	AR segment convex hairs sparse Uppermost node hairs numerous

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STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>LEEDS</b>	M	M	II	Medium Sharp	Moderate	Medium to narrow Elevated	Medium Moderate to strong Medium	AR segment convex hairs sparse Uppermost node hairs sparse to moderate
<b>REVELATION</b>	M	S to M	II	Medium Sharp	Moderate	Medium to narrow Elevated	Medium Moderate to slight Weak	AR segment convex hairs moderate Uppermost node hairs moderate
<b>KWS SANTIAGO</b>	L to M	M	II	Medium to long Sharp	Moderate to strong	Medium Elevated	Medium Strong Weak to medium	AR segment convex hairs moderate Uppermost node hairs numerous
<b>RGT CONVERSION</b>	M	W to M	II	Long Sharp	Strong	Narrow Elevated	Long Moderate to strong Medium to strong	AR segment convex hairs sparse Uppermost node hairs numerous

**EXTERNAL SURFACE ROUGH, INTERNAL GROUP HAIRS II TO III  
STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>BELGRADE</b>  (new 2017)	M to D	M	III	Medium Sharp	Moderate	Narrow Elevated	Medium to long Moderate Absent	AR segment hairs moderate Uppermost node hairs numerous EXTERNAL HAIRS PRESENT

**EXTERNAL SURFACE SMOOTH, INTERNAL GROUP HAIRS I TO II  
STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>CORDIALE</b>	M to D	M to S	I	Medium	Moderate	Medium	Medium Straight to slight	AR segment convex hairs sparse Uppermost node hairs sparse to moderate
<b>GRAHAM</b>  (new 2017)	M to D	S	I	Short  Medium	Slight	Medium to narrow  Elevated	Short Slight Weak	AR segment convex hairs sparse Uppermost node hairs sparse to moderate
<b>RIBAND</b>	L to M	M to W	I to I <sup>+</sup>	Medium  Sharp	Slight to moderate	Medium  ± Square to slightly elevated	Medium  Moderate  Medium	AR segment convex hairs sparse to moderate Uppermost node hairs sparse to moderate

**BEARDED, EXTERNAL SURFACE SMOOTH, INTERNAL GROUP HAIRS III  
STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>SKYFALL</b>	M	S	III	Very long  Sharp	Slight	Very narrow to narrow  Elevated (occ with 2nd point)	Very long  Straight to slight  Absent	AR segment convex hairs sparse to moderate  Uppermost node hairs numerous

**EXTERNAL SURFACE SMOOTH, INTERNAL GROUP HAIR II to III  
STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>DICKENS</b>  (new 2017)	M to D	S to M	III	Medium to short  Blunt	Slight to moderate	Medium to narrow  Elevated	Medium  Moderate Weak	AR segment convex hairs moderate  Uppermost node hairs sparse
<b>MONROE</b>  (new 2017)	D	M to S	II	Medium  Medium	Slight	Medium to narrow  Elevated	Medium Slight Weak	AR segment convex hairs moderate  Uppermost node hairs very sparse to sparse
<b>RELAY</b>	M	S	II	Medium  Sharp	Straight to slight	Narrow  Elevated	Long Slight Absent	AR segment convex hairs numerous  Uppermost node hairs sparse to moderate

**EXTERNAL SURFACE SMOOTH, INTERNAL GROUP HAIR II to III  
STRAW WALL THIN**

VARIETY  NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>KWS KILBURN (Spring)</b>	VL to L	S to M	III	Medium	Slight	Narrow	Long to very long Slight Absent to weak	AR segment convex hairs moderate to sparse Uppermost node hairs sparse
<b>PARAGON (Spring)</b>	M to L	M	II <sup>+</sup> to III	Medium to short  Blunt	Straight	Narrow  Square to slightly sloping	Medium to short Slight Absent	AR segment convex hairs numerous Uppermost node hairs sparse
<b>RGT DOUBLESOT (Spring) (new 2017)</b>	L to M	M to S	III	Short  Blunt	Slight	Wide  Square	Long Slight to moderate Medium to strong	AR segment convex hairs moderate to numerous Uppermost node hairs absent or very sparse

**EXTERNAL SURFACE SMOOTH, INTERNAL GROUP HAIR II to III  
STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>KWS LILI</b>	D	M to S	II	Short to medium  Medium	Slight	Narrow  Elevated	Medium Slight to moderate Absent to very weak	AR segment convex hairs sparse Uppermost node hairs moderate
<b>BELEPI</b>	M	S to VS	III	Short to medium	Straight to slight	Medium  Square	Medium Slight to moderate Weak	AR segment convex hairs sparse Uppermost node hairs numerous
<b>ZULU</b>	M	M	III	Medium  Medium	Slight	Medium to narrow  Elevated	Medium Slight Weak	AR segment convex hairs moderate Uppermost node hairs numerous



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VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>HORATIO</b>	L to M	M to S	II	Medium to long  Sharp	Moderate	Medium  Elevated	Long Moderate Medium	AR segment convex hairs moderate Uppermost node hairs moderate
<b>MYRIAD</b>	M	M to S	II sp	Medium  Sharp	Moderate to strong	Medium to wide  Elevated	Medium to long  Strong Strong	AR segment convex hairs sparse Uppermost node hairs numerous to moderate

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STRAW WALL THIN**

VARIETY NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>KWS WILLOW (Spring)</b>	L to M	S	III	Very short to short  Medium	Moderate	Narrow  Square to slightly sloping	Short Moderate to strong Weak	AR segment convex hairs moderate Uppermost node hairs moderate to numerous

**EXTERNAL SURFACE SMOOTH, INTERNAL GROUP HAIR III  
STRAW WALL INTERMEDIATE to THICK**

VARIETY  NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)			LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES	
			Internal Hairs	Beak				Shoulder
	Density	Glauc.	Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>GRANARY (Spring)</b>	M	W	III	Short  Blunt	Slight	Narrow  Square to rounded	Medium Slight Absent	AR segment convex hairs numerous Uppermost node hairs moderate to sparse Straw wall thick
<b>MULIKA (Spring)</b>	L to M	W to M	III	Short to medium  Blunt	Moderate to strong	Narrow to medium  Elevated	Medium Strong Medium	AR segment convex hairs numerous Uppermost node hairs sparse Straw wall intermediate

**EXTERNAL SURFACE SMOOTH, INTERNAL GROUP HAIR III  
STRAW WALL INTERMEDIATE to THICK**

VARIETY  NAME	EAR		LOWER GLUME (spikelets from mid 1/3 ear)				LOWER LEMMA BEAK - Length - Curvature - Swelling	OTHER FEATURES
	Density	Glauc.	Internal Hairs	Beak		Shoulder		
			Gp.	- Length - Tip shape	Curvature	- Width - Shape		
<b>KWS ALDERON (Spring)</b>	L	S	III	Short  Blunt	Slight to moderate	Narrow  Square to slightly elevated	Medium  Slight  Medium	AR segment convex hairs numerous  Uppermost node hairs moderate  Straw wall intermediate
<b>TYBALT (Spring)</b>	M	M to S	III	Medium to short  Blunt	Slight	Medium to narrow  Slightly sloping to square	Medium to short  Straight to slight  Weak	AR segment convex hairs sparse  Uppermost node hairs moderate  Straw wall thick

**WHEAT KEY ABBREVIATIONS**

A	Absent
Alt	Alternative
AR	Apical Rachis
D	Dense
L	Lax
M	Medium
Occ.	Occasional
S	Strong
sp	Sparse
V	Very
W	Weak