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Variety	Key Varietal Characteristics	Variant
Descriptor Key	 Type = market class or crop type; HRWW = hard red winter wheat HWWW=hard white winter wheat Spkdens = spike density: Iax (open or loose); md (mid-dense); den (dense or tight) Spike Shape = fusiform (tapering, usually fusiform wider at base than at tip); oblong (strap, or same width at top and bottom, not tapering). Chaff Color = the color of the plant when it has matured and has dried down: white, white-amber, yellow, brown, bronze, red Glume Ixw = the length x width of the outer glume; l=long, s=short, n=narrow, w=wide, m=medium (i.e. med-long and med-wide) Glume Shoulder = the shape of the shoulder of the outer glumes; w=wanting; o=oblique; s=square; r=round; e=elevated; a=apiculate Beak Length/Shape = the length of the beak (vs=very short, s=short, m=medium, ml-medium long, l=long Note: some characters may be missing in the descriptions for some varieties 	Note: This table is for guidance only. Every attempt has been made to accurately reflect varietal information as provided by companies and from Plant Variety Protection applications and national review board summaries. For direct confirmation of the information contained in this table, please contact those above sources.
1863	Type: HRWW Spkdens: mid dense Spike Shape: fus Chaff Color: white Glume lxw: m x n Glume Shoulder: elevated Beak Length/Shape: med x acuminate	1/500 Brown chaff
122016W Brand name HG Force	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: white/amber Glume lxw: m x n Glume Shoulder: oblique Beak Length/Shape: med x acuminate	10/1000 taller (8 to 15 cm) 1.8% white seed variant
336 Triticale	Type: Winter triticale <u>Description</u> : mid-tall, color is green (as opposed to yellow-green or bluegreen), neck moderately hairy and wavy, no stem anthocyanin. Twisted flag leaf, waxy bloom on leaf, leaf is recurved (as opposed to upright, or drooping). Head is mid-dense, tapering, awned with tan awns. Glumes at maturity are glabrous (hairless), tan, long, mid-wide with a wanting shoulder and acuminate beak.	None provided
348 Triticale	Type: Triticale Spkdens: mid dense Spike Shape: Oblong Chaff Color: yellow Awnletted Glume 1 x w: 1 x mw Glume Shoulder: wanting Beak Length/Shape: long/obtuse	5/1000 awns 4 to 5 cm and hairy neck
422T see NE422T	PVP certificate 200200153	
718 Triticale	Winter triticale – awnletted variety where awns are greatly reduced but can vary from head to head, heads tend to be inclined, neck just below head generally straight but can have a slight wave. Pubescence on stem 1.5 to 2 inches below head (spike)	No variants listed. Awns though greatly reduced in length can vary from head to head but should not appear fully awned.

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719 Flex triticale	Type: Triticale Spkdens: dense Spike Shape: Oblong Awnletted Chaff Color: yellow	< 10/1000 Bearded heads
Var 841446398	Neck: Straight, slightly hairy Glume l x w: ml x mw Glume Shoulder: rounded Beak length/shape: ?/acuminate	
AG Golden	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Beak length officially not stated, 2021 foundation field observation Glume I x w: m x m Glume Shoulder: oblique Beak Length/Shape: m 7-8 mm x acuminate	Taller up to 3 spike lengths above canopy 1/1000 Red or bronze glumes 1/1000 Awnless or awnletted 1/10000
AG Icon	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Glume lxw: m x m Glume Shoulder: square Beak Length/Shape: m x acuminate	Taller 1/1000 Dark chaff 1/1000 White seeded up to 0.8%
AG Radical	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Juvenile plants have purple auricles present. Glume I x w: m x n Glume Shoulder: oblique Beak Length/Shape: med. 5-6 mm x acuminate	Taller up to 3 spike lengths above canopy 1/1000 Red or bronze glumes 1/1000 Awnless or awnletted 1/10000
AM Cartwright	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: White Glume lxw: m x m Glume Shoulder: oblique Beak Length/Shape: s x acuminate	Taller 1 per 1000 Up to 0.8 % white seed
AM Eastwood	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: white Glume lxw: s x n Glume Shoulder: rounded Beak Length/Shape: ?/acuminate	1 per 100 Taller (3 spikelengths) 1 per 1000 red/bronze plants 1/10,000 awnless Up to 3% white grain
AM 473	Type: SRW Spkdens: lax Spike Shape: strap Chaff Color: white Glume l x w: m x m Glume Shoulder: oblique Beak Length/Shape: m /acuminate	Taller (3 spikelengths) 1/1000 Awnless 1/10,000
AP18 AX	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Revised for 2022 based on certificate 2020000351 Glume lxw: m x n Glume Shoulder: rounded Beak Length/Shape: ?/acuminate	1/1000 Taller 1/1000 Red chaff 1/1000 Awnless
AP503CL2	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Revised for 2021 based on Aug. 2017 AOSCA Small Grain Review Board Glume lxw: m x n Glume Shoulder: Oblique Beak Length/Shape: ? x acuminate	8/1000 Taller (8 to 15 cm) (0.8%) 1/2500 Bronze Chaff (0.04%) 1/2500 Awnless (0.04%)
AP Bigfoot	Type: HRWW Spkdens: dense Spike Shape: tapering Chaff Color: white/amber Glume lxw: m x n Glume Shoulder: Oblique Beak Length/Shape: 1 x acuminate	2/1000 Taller (8 to 15 cm) (0.2%) 9/10000 Red Chaff (0.09%) 4/1000 Awnless (0.4%)
AP EverRock	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: white/amber Revised for 2022 based on certificate no. 202100055 Glume lxw: 1 x w Glume Shoulder: Oblique Beak Length/Shape: 1 x acuminate	Taller (8 to 15 cm) 10/1000 (1%) Less than 1/10000 awnless 1.8% white seed

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AP Longjack	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: white/amber	Taller (8-15 cm) 3/10000
1	Classes bears 1 and Classes Charalders are also 1. Death I are 41/Character 1. (1)	Awned 4/10000
awnless	Glume lxw: 1 x m Glume Shoulder: rounded Beak Length/Shape: short x obtuse	Red chaff 1/10000
AP Prolific	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Allowed variants are taller and awnless
		plants up to 1% or 10/1000.
	Glume lxw: m x m Glume Shoulder: square Beak Length/Shape: medium x acuminate	White seed variant about 1.8%
AP Roadrunner	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller (8 to 15 cm) 1/100 (1%)
AP14T21619	Revised 2022 based on certificate 202100344 Clampa based on certificate 202100344 Clampa based on certificate 202100344 Clampa based on certificate 202100344	
	Glume lxw: m x w Glume Shoulder: oblique Beak Length/Shape: medium x acuminate	White seed variant 1.8%
Aspen	Type: HWWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: tan	3/1000 Taller (5-10)
		1/1000 Bronze/brown chaff
	Glume l x w: ml x Glume Shoulder: square Beak Length/Shape: s x acuminate	5/1000 Red Seed
Avery	Type: HRWW Spkdens: dense Spike Shape: tapering Chaff Color: white/amber	Taller 1 per 1000
(CO11D174)		Red Chaff 1 per 1000
	Glume l x w: s x m Glume Shoulder: Oblique Beak Length/Shape: m x acuminate	
Bakers Ann	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: Bronze	Taller <10cm 1 per 750
		White glumes 1 per 100 or 1%
	Glume lxw: short x wide Glume Shoulder: oblique Beak Length/Shape: m? x acuminate	
Bentley	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: tan	Taller (< 4 in) 1/500
		White chaff 1/500
	Glume l x w: m x w Glume Shoulder: Oblique Beak Length/Shape: m x acuminate	
Big Country	Type: HWWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white	Bronze chaff < 8/10000 (0.8%)
Awnless to		Awned < 1/750 or 13/10,000 (0.13%)
Apically awnletted	Glume l x w: 1 x n to m Glume Shoulder: Oblique Beak Length/Shape: v short (2mm) x acumin	
Bob Dole	Type: HRWW Spkdens: mid dense Spike Shape: Tapering Chaff Color: white	Taller 1/1000
	Glume l x w: m x n Glume Shoulder: wanting Beak Length/Shape: (see note) long x acuminate	Dark Chaff 1/1000
	Note: We think the description may be incorrect and beak length should be short, wanting to	White seeded up to 0.8%
	oblique shoulder if you have questions contact KCIA	
Brawl CL Plus	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white	1 per 1000 Very tall greater than two
		spikelengths
	Glume l x w: m x n Glume Shoulder: Oblique Beak Length/Shape: ? x acuminate	1 per 1000 Red Chaff
Breck	Type: HWWW Spkdens: mid dense Spike Shape: Tapering Chaff Color: white/amber	Taller 1/1000
		Awnless1/2000
	Glume l x w: m x w Glume Shoulder: elevated Beak Length/Shape: m x acuminate	Red seeded fewer than 1/200 plants

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Buckhorn AX	Type: HRWW Spkdens: lax Spike Shape: Tapering Chaff Color: white	Taller 1 per 1000 (2 spike lengths)
	Glume 1 x w: 1 x n Glume Shoulder: wanting Beak Length/Shape: ? x acuminate	Red or Bronze glumes 1 per 1000 Awnless 1 per 1000
	Grunte 1 x w. 1 x ii Grunte Shourder: wanting Beak Length/Shape: : x acummate	White seed 0.75%
Butlers Gold	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: tan	White chaff < 1/1000 (0.1%)
	~9mm x ~4mm Glume l x w: 1 x w Glume Shoulder: Square Beak Length/Shape: med (5mm) x acuminate	
Byrd	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white	1/1000 tall (two spike lengths or more) 1/1000 red chaff
	Glume l x w: m x n Glume Shoulder: Oblique Beak Length/Shape: ? x acuminate	1/1000 red charr
Byrd CL Plus	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller 1/1000
		Brown glumes 1/1000
	Glume l x w: m x n Glume Shoulder: rounded Beak Length/Shape: m x acuminate	Awnless 1/1000
		White seeded 1/200
Canvas (CSU)	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller 1/1000
		Brown glumes 1/1000
	Glume l x w: m x n Glume Shoulder: rounded Beak Length/Shape: m x acuminate	Awnless 1/1000
C AY		White seeded 1/200
Crescent AX	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller 1/1000
Aka CO14A050	Glume l x w: m x n Glume Shoulder: rounded Beak Length/Shape: med x acuminate	Brown glumes 1/1000 Awnless 1/1000
Aka CO14A030	Gluine 1 x w: m x m Gluine Shoulder: Tounded beak Length/Shape: med x acummate	White seeded 1/200
CO14A070	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller 1/1000
CO14A070	Type. The www space initial dense spike snape. tapeting chair color. white/anioer	Brown glumes 1/1000
	Glume l x w: m x n Glume Shoulder: rounded Beak Length/Shape: m x acuminate	Awnless 1/1000
	Oranie in in Oranie Sitoriaeri Isanie a Zeni Zengun Simper	White seeded 1/200
CO14AX136-135	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller 1/1000
		Brown glumes 1/1000
	Glume l x w: m x m Glume Shoulder: rounded Beak Length/Shape: s x acuminate	Awnless 1/1000
		White seeded 1/200
CP7017 AX	Type: HRWW Spkdens: lax Spike Shape: Tapering Chaff Color: white	Taller 1/1000 up to 2 spike lengths
		Red or Bronze glumes 1/1000
	Glume l x w: m x w Glume Shoulder: oblique Beak Length/Shape: ? x acuminate	Awnless or awnletted 1/1000
		White seeded 0.75%

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CP7050 AX	Type: HRWW Spkdens: lax Spike Shape: Tapering Chaff Color: white Glume l x w: m x m Glume Shoulder: oblique Beak Length/Shape: ? x acuminate	Taller 1/1000 up to 2 spike lengths Red or Bronze glumes 1/1000 Awnless or awnlested 1/1000
CP7909		White seeded 0.75%
CP7909 CP7266 AX Aka LCH18-7066 PVP: 20221866 AX	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Glume l x w: L x m Glume Shoulder: oblique Beak Length/Shape: med x acuminate	Taller (up tp 2 spike lengths) < 1/1,000 Red/tan/bronze glumes < 1/1,000 Awnless < 1/1,000 White seed up to 0.75%
Danby	Type: HWWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white Glume 1 x w: ml x ? Glume Shoulder: rounded Beak Length/Shape: m 2-4mm x acuminate	1/1000 Slightly taller 1/1000 Brown chaff 1/200 Red seeded
Doublestop CL Plus	Type: HRWW Spkdens: mid dense Spike Shape: Oblong Chaff Color: bronze* * Updated by OSU 6/16/14 Glume 1 x w: 1 x w Glume Shoulder: wanting Beak Length/Shape: ? x acuminate	1/200 Taller (>5 inches) below okay 1/250 White glume
Everest	Type: HRWW Spkdens: mid dense Spike Shape: f usiform Chaff Color: tan Glume I x w: m x n Glume Shoulder: elevated Beak Length/Shape: med x acuminate	1/1000 Taller, may or may not have wanting to oblique shoulders, short to medium beak 1/1000 red chaff
Fredro Triticale	Type: Triticale Height: mid-tall Spkden: mid-dense Spike Shape: oblong Spike awnedness: awnless; Neck shape: ? Neck hairiness: ? Glume Pubescence: hairless Glume color: white Glume l x w: mid-long, mid-wide, Glume color: white Glume shoulder: oblique Glume beak shape: acuminate	No variants noted beyond normal environmental differences
Gainer 154 Pvp 946802617	Type: Triticale Spkdens: mid-dense Spike Shape: fusiform Spike awnedness: Awned Neck shape: wavy Neck hairiness: Heavy Glume Pubescence: slightly pubescent Glume Color: yellow Glume I x w: ml x mw Glume Shoulder: wanting Glume Beak shape: obtuse	Taller 1/1000
Gallagher	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: tan Glume l x w: m x n Glume Shoulder: Oblique Beak Length/Shape: ? x acuminate	1/500 Taller (>6in) later (3 days) 1/1000 Bronze glume
GB206 QA K1202SRW Brand 6PLKV03B	Type: SRW Spkdens: dense Spike Shape: tapering Chaff Color: tan JoMar JM 1521 shoulder shape and beak length not stated Glume l x w: ? x ? Glume Shoulder: ? Beak Length/Shape: ? x acuminate	Taller 1/100 (1.0%) Awnless1/100 (1.0%)
GB208 QA K1203SRW Brand 6PJRS71B	Type: SRW Spkdens: mid dense Spike Shape: tapering Chaff Color: tan JoMar JM 1529 glume width, and beak length not stated Glume l x w: s x ? Glume Shoulder: oblique Beak Length/Shape: ? x acuminate	Taller 1/100 (1.0%) Awnless1/100 (1.0%)

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Goliath	Type: OATS HEAD: panicle shape intermediate, size medium, width mid broad	None listed
	Glumes: width 8 mm, length 19mm, no. of veins 9, color striped	
	<u>Lemma: length 12 mm, color white, dorsal surface hairless</u>	
Green Hammer	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: bronze	Taller <10cm 2 per 1000
		White glume color 5 per 1000
	Glume l x w: m x m Glume Shoulder: square Beak Length/Shape: m? x acuminate	
Gunner field peas	Field Pea Gunner is a semi-leafless upright, white flowered, yellow cotyledon dry pea. Gunner has smooth round small seed.	None provided
Guardian	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white/amber	Taller > one spike length 1/1000 Brown glumes 1/1000
	Glume lxw: m x n Glume Shoulder: rounded Beak Length/Shape: med x acuminate	Awnless 1/1000
		White seed 0.5%
Hayden	Type: OATS HEAD: panicle shape equilateral, size medium, width mid broad	Taller 25/10000
•	Glumes: width 5 mm, length 20mm, no. of veins 9, color striped	
	Lemma: length 15 mm, color white, dorsal surface hairless	
HG Force	See description for 122016W	
High Country	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 4/10,000
		Awnless 1/10,000
	Glume l x w: m x m Glume Shoulder: oblique Beak Length/Shape: long x acuminate	Red chaff 3/10,000
		Up to 1.8% white seed variant
6452018	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white	Taller (15-20cm) 10 per 10,000
		Awnless 10 per 10,000
(10-0887)	Glume l x w: 1 x n Glume Shoulder: apiculate Beak Length/Shape: long x acuminate	Bronze head 10 per 10,000
		Up to 0.50% white seed variant
Jagger	Type: HRWW Spkdens: 1 Spike Shape: Oblong Chaff Color: brown	50/5,000 Blue-green
		5/5000 White to tan glumes
	Glume l x w: 1 x W Glume Shoulder: r-s Beak Length/Shape: med x acuminate	5/5000 Talls
		1/10,000 Red glumes &/or later
Jerry Oats	Tall. Culms and leaf margins glabrous (without hair); ligules present; Equilateral panicle with	
	ascending branches; mid-long lemmas are glabrous and without basal hairs; second-floret rachilla	
	segments glabrous and mid-long.	
Joe	Type: HWWW Spkdens: mid dense Spike Shape: tapering Revised for 2021 based on Mar. 2020 AOSCA Small Grain Review Board	1/1000 taller
Formerly KS11HW39-5-4	Revised for 2021 based on Mar. 2020 AOSCA Small Grain Review Board Glume l x w: m x m Glume Shoulder: oblique Beak Length/Shape: med x acuminate	White or dark chaff 5/1000
	Giunie 1 A w. in A in Giunie Shounder: oonque beak Length/Shape: med X acuminate	Up to 0.3% red seed (amended 9/4/2018)

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KanMark	Type: HRWW Spkdens: mid dense Spike Shape: Oblong Chaff Color: white	1/1000 tall
	Glume l x w: m x m Glume Shoulder: square Beak Length/Shape: med x acuminate	1/1000 dark chaff
Karl 92	Type: HRWW Spkdens: mid dense Spike Shape: ob-fus Chaff Color: white	Slightly taller
Kari 72	Type. The www spaces. Inducerse spike shape. Ob-tus chair color. while	Slightly darker
	Glume lxw: ml x n-mw Glume Shoulder: r-s Beak Length/Shape: 4-9mm x acum	Slightly later
		Total 1/10,000
Kivari AX	Type: HRWW Spkden: mid dense Spike Shape: tapering Chaff Color: White	Taller <1/1000
		Red glumed plants <1/1000
	Glume lxw: m x m Glume Shoulder: Square Beak Length/Shape: long/acuminate	Awnless <1/1000 White seed coat plants <1/200
Kona	Spring Oat; erect juvenile growth; medium stem diameter; drooping, light green leaf; ligule present;	May be some frequency of awned first
Kona	panicle shape equilateral; panicle size medium with mid-broad width; avg 2.0 florets/spikelet;	floret
	lemma color white; awn first floret is absent;	
KS12D03-1	<u>Type:</u> Durum <u>Spkden</u> : dense <u>Spike Shape</u> : Oblong <u>Chaff Color:</u> White/amber	Taller 1/1000
Aka DH-AFQ3-1		Dark chaff 1/1000
	Glume l x w: m x n Glume Shoulder: Oblique Beak Length/Shape: Medium/Acute	
KS Ahearn	Type: HRWW Spkdens: dense Spike Shape: oblong Chaff Color: white/amber	Taller 1/1000 (0.1%)
W010DH0156 00		Dark chaff 1/1000 (0.1%)
KS12DH0156-88	Glume 1 x w: 1 x w Glume Shoulder: square Beak Length/Shape: short x acuminate	White seeded plants (0.8%)
KS Big Bow	<u>Type:</u> HWW <u>Spkdens:</u> mid dense <u>Spike Shape:</u> tapering <u>Chaff Color:</u> white/amber	Taller <1/100 (1.0%)
Aka KS18HW106-4	Glume 1 x w: 1 x m Glume Shoulder: square Beak Length/Shape: medium x acuminate	red seeded plants (1.0%)
KS14H180-4-6	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller 1/100
K51411100 4 0	Type: The way of the dense of the state of t	Tallel 1/100
	Glume l x w: m x n Glume Shoulder: oblique Beak Length/Shape: med x acuminate	White seeded plants < 1/1000
KS Dallas	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: White/Amber	Slightly taller 1 per 100
	Glume 1 x w: 1 x n Glume Shoulder: oblique Beak Length/Shape: m x acuminate	0.1% white seed
KS Hamilton	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: White/Amber	Taller < 1/100 (1%)
Formerly KS15H137-2-2	Glume l x w: m x m Glume Shoulder: elevated Beak Length/Shape: m x acuminate	White seeded < 5/1000 (0.5%)
KS Hatchett	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: White	Taller 1/1000
Aka KS090049K-8	Beak length officially short 2021 foundation field observation s to med.	Dark chaff 1/1000
	Glume 1 x w: m x m Glume Shoulder: elevated Beak Length/Shape: s x acuminate	White seed up to 0.8%

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KS16DH0010-17 Aka KS Mako	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: White/Amber Glume l x w: m x m Glume Shoulder: square Beak Length/Shape: L x obtuse	Taller 1/1000 Dark chaff 1/1000 White seed up to 0.8%
KS19H10	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: White/Amber Glume I x w: L x narrow Glume Shoulder: Oblique Beak Length/Shape: L x Acuminate	Taller 10cm and above 100/10,000 White seed 150/10,000
KS Providence Aka KS13DH0041-35	Type: HRWW Spkdens: mid dence Spike Shape: tapering Chaff Color: white/amber Glume l x w: 1 x med Glume Shoulder: elevated Beak Length/Shape: s x acuminate	Taller 1/1000 Dark chaff 1/1000 White seed up to 0.8%
KS Silverado	Type: HWWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber Glume l x w: m x m Glume Shoulder: square Beak Length/Shape: m x acuminate	Slightly taller 1 per 100 Red seed 2%
KS Territory Aka KS18H111-3	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber Glume l x w: 1 x n Glume Shoulder: Oblique Beak Length/Shape: long x acuminate	Taller < 1/100 (1.0%) White seeds < 3/1000 (0.3%)
KS Venada aka KS13HW92-3	Type: HWWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber Glume 1 x w: 1 x m Glume Shoulder: oblique Beak Length/Shape: 1 x acuminate	Taller 1/100 red seeded plants < 2/100
KS Western Star	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white/amber	Slightly taller 1 per 100 White seed 0.1%
Langin	Glume l x w: 1 x n Glume Shoulder: oblique Beak Length/Shape: m x acuminate Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Glume l x w: m x m Glume Shoulder: Oblique Beak Length/Shape: med x acuminate	Taller 1/1000 Red chaff 1/1000 White seed fewer than 1/200
Larned	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white Glume 1 x w: m x n Glume Shoulder: rounded Beak Length/Shape: short x acuminate	
Larry	Type: HRWW Spkdens: mid dense Spike Shape: Oblong Chaff Color: white Glume I x w: m x m Glume Shoulder: elevated Beak Length/Shape: long x acuminate	Taller 1/1000 Dark chaff 1/1000
LCS Atomic AX	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Glume m x n : Glume Shoulder: rounded Beak Length/Shape: ?/accuminate	1 per 1000 taller up to 2 spike lengths 1 per 1000 red or bronze glumes 1 per 1000 awnless or awnletted Up to .75% white seeds

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LCS Avenger	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white	Taller by 3 spike lengths 1/100 Red or bronze chaff 1/1000
	Glume l x w: l x m Glume Shoulder: oblique Beak Length/Shape: med x acuminate	Awnless 1/10,000 White seed up to 3%
LCS Bar	Type: Triticale Spkdens: mid dense Spike Shape: oblong Spike awnedness: medium length awns Chaff Color: tan Neck shape: wavy Neck hairiness: hairy Glume pubescence: slightly Glume 1 x w: 1 x w Glume Shoulder: wanting Glume Beak shape: acuminate	Taller Awnless Total variants less than 20/1000
LCS Calypso	Type: 2 row Barley Spkdens: erect(dense) Spike Shape: strap slightly waxy Head: Slightly waxy; Glume Awns: equal to length of glumes; awn surface semi-smooth Glume: 1/2 length of lemma; no hair Lemma awns: longer than length of spike Lemma: Numerous teeth; hair present; shape of base slight crease; rachilla hairs long. Shape of neck: Snaky	Taller up to 8 inches 1/1000 Later-drooping heads 1/1000
LCS Chrome	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: tan Glume 1 x w: 1 x n Glume Shoulder: wanting Beak Length/Shape: medium / acuminate	Awnless 2/1000 Taller (up to three spike lengths) 5/1000 White chaff 1/1000
LCS Fusion AX	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Glume 1 x w: m x n Glume Shoulder: rounded Beak Length/Shape: med x acuminate	Taller by 3 spike lengths 1/1000 Red chaff 1/1000 Awnless 1/2000
LCS Galloway AX	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Glume l x w: 1 x m Glume Shoulder: elevated Beak Length/Shape: medium x acuminate ~9 mm x ~3.5mm ~0.5cm	Taller by 2 spike lengths 1/1000 Red or bronze chaff 1/1000 Awnless 1/1000 Up to 0.75% white grain
LCS Helix AX	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Beak length officially not stated, 2021 foundation field observation was med. to med. long 6-7 mm. Glume l x w: m x n Glume Shoulder: square Beak Length/Shape: med. 6-7mm x acuminate	Taller up to 2 spike lengths 1/1000 Red or bronze chaff 1/1000 Anwless or awnletted 1/1000
LCS Julep	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Beak length officially not stated, 2021 foundation field observation beak was med to med. long +- 1 cm. Glume l x w: l x m Glume Shoulder: rounded Beak Length/Shape: med. +- 1 cm x acuminate	Taller to 3 spikelengths 1 per 1000 Red or Bronze 1 per 1000 Awnless 1 per 10,000 0.75% white grain
LCS Link	Type: HRWW Spkdens: mid dense Spike Shape oblong Chaff Color: white Glume 1 x w: m x m Glume Shoulder: wanting Beak Length/Shape: medium/acuminate	2 per 1000 Taller (up to 3 spikelengths) 1/1000 red/brown chaff, square/obliq glumes 1 per 1000 awnless May contain up to 3% white grain
LCS Mint	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: white/amber Glume l x w: m x w Glume Shoulder: square Beak Length/Shape: med x acuminate	1 per 1000 brown glumes 1 per 1000 taller plants (two spikelengths above canopy)

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LCS Odessey (spring type 2-row barley)	Awns strong anthocyanin (reddish) coloration of tips. Ear (head) parallel shape, medium dense, long awns, two rows. Awns are medium to long compared to ear.	None listed
LCS Photon AX	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white/amber Glume l x w: l x n Glume Shoulder: elevated Beak Length/Shape: vl x acuminate	Awnless/awnletted 1/1000 Taller up to two spikes 1/1000 Red or Bronze 1 per 1000 White seed 0.75%
LCS Pistol	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber Glume I x w: m x m Glume Shoulder: rounded Beak Length/Shape: m x acuminate	1/1000 red/brown chaffed 1/1000 awnless 5/1000 taller (2 spikelengths above canopy)
LCS Revere	Type: HRWW Spkdens: mid dense Spike Shape: Tapering Chaff Color: white Glume I x w: ml x w Glume Shoulder: oblique Beak Length/Shape: med x acuminate	Taller up to 3 spike lengths 1/1000 Red or bronze glumes 1/1000 Awnless 1/10000 White seed up to 0.75%
LCS Runner	Type: HRWW Spkdens: lax Spike Shape: Tapering Chaff Color: white Beak length not officially stated Glume l x w: m x m Glume Shoulder: rounded Beak Length/Shape: ? x acuminate	Taller up to 3 spike lengths 1/1000 Red or bronze glumes 1/1000 Awnless 1/10000 White seed up to 0.75%
LCS Saturn	Type: Six-Rowed Barley Spkdens: Drooping, medium Spike Shape: Tapering Glume length: More than ½ of Lemma Long awns, Slightly waxy head	Taller up to 6 inches 5/1000
LCS Steel AX	Type:HRWWSpkdens:mid denseSpike Shape:taperingChaff Color:tanBeak length officially not stated, 2021 foundation field observation, shoulder also oblique to square, length med. to mlGlume l x w:m x mGlume Shoulder:obliqueBeak Length/Shape:med. +- 1 cm x acuminate	Taller up to 2 spike lengths above canopy 1/1000 White or red glumes 1/1000 Awnless or awnletted 1/1000
LCS Valiant	Type: HRWW Spkdens: mid dense Spike Shape: Tapering Chaff Color: white Glume 1 x w: m ~3-5mm X m ~8mm Glume Shoulder: oblique Beak Length/Shape: m (0.92cm) X acuminat revised for 2021 based on PVP certificate 202000191	Taller by 10 cm 1/200 What is described as glume variants 1/100 No color or awn variants observed
LCS Violetta	Two-row Barley straight, long, rough awns. White auricles	
LCS White Lightning (LCH18-9027)	Type: HWW Spkdens: mid dense Spike Shape: Tapering Chaff Color: white Beak length not officially stated Glume I x w: 1 x w Glume Shoulder: square Beak Length/Shape: v. long (~1.2 cm) x acuminate ~9mm X ~4mm	Taller up to 3 spike lengths 1/1000 Red or bronze glumes 1/1000 Awnless 1/10,000 Red seed up to 0.75%
LCS Wizard	Type: HRWW Spkdens: mid dense Spike Shape: o to slightly fusiform Chaff Color: white Glume I x w: 1 x n Glume Shoulder: oblique Beak Length/Shape: ?/obtuse	Awnless 1 per 1000 5 per 1000 taller (up to three spike lengths)

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		1 1
Oakiey CL	Glume 1 x w: med x med Glume Shoulder: Oblique Beak Length/Shape: med /acuminate	Purple auricles 1 per 1000 White-seeded plants 1 per 1000
Oakley CL	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white	Slightly taller 1 per 1000
PVP cert. 200200153	4mm wide and oblong, awned with tan awns. Glumes at maturity are pubescent, tan, mid long, narrow with a wanting shoulder and acuminate beak.	Up to 1% 10/10,000 variant plants are allowed
aka 422T	on leaf, leaf is re-curved (as opposed to upright, or drooping). Head is mid-dense, ~9.6cm long,	days)
1 400T	blue-green), neck is non hairy and straight, no stem anthocyanin. Flag leaf not twisted, waxy bloom	1/8000 Shorter (25-30cm) and later (3-4
NE422T (Triticale)	Type: Winter triticale Description: tall ~148cm, color is green (as opposed to yellow-green or	Taller (10-20cm) 1/10,000
	Glumes: pubescent, tan in color, long, mid-wide with wanting shoulders, Beak: accuminate	
NE441T (triticale)	Type: Triticale Spkdens: dense Spike Shape: Clavate Awned with Awn color: tan	None listed
NE10589	See variety descriptors Ruth	
	Glume l x w: 20x 6 mm Glume Shoulder: ? Beak Length/Shape: ?	
	Plant height: approx 106 cm; Lemma: 14 mm long, white, hairless	
Natty (oats)	Type: OATS Spkdens: ? Spike Shape: equilateral Chaff Color: striped	None listed
	Glume l x w: m x n Glume Shoulder: rounded Beak Length/Shape: m x acuminate	Awnless 1/1000
		Brown glumes 1/1000
Monarch white wheat	Type: HWWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller 1/1000
11107721	Glume 1 x w: 1 x n Glume Shoulder: wanting Beak Length/Shape: ml x acuminate	and longer beak, or bronze chaff
N104421	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: tan	Up to 2% (20/1000) taller (8-15cm) and/or
	Beak Length/Shape: very long / acum. Glume l x w: 1 (~9mm) x n (~3.5mm) Glume Shoulder: elevated	Taller (up to three spike lengths) 1/1000 Red/brown chaff 1/1000
MS Iceman	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white	Awnless 1/10,000
	Glume l x w: s x m Glume Shoulder: elevated Beak Length/Shape: short / acuminate	Red/brown chaff 2/1000
		Taller (up to three spike lengths) 5/1000
Long Branch	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white	Awnless 2/1000
	Glume l x w: m x m Glume Shoulder: rounded Beak Length/Shape: med x acuminate	Bronze chair 1/300
Lonerider	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white	Bronze chaff 1/500
Aka LCS Radar Lonerider	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white	Taller <10 cm 1/800
LCH19DH-152-6	No characteristics yet	None listed yet
	Glume l x w: 1 x m Glume Shoulder: rounded Beak Length/Shape: v. long x acuminate	red seed up to 0.75%
		white chaff 1/1000
LCS Yeti	Type: HWWW Spkdens: mid dense Spike Shape: tapering Chaff Color: bronze/tan	Taller by 2 spike lengths 1/1000

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OK Corral	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Based on certificate 202000252.	1/1000 Taller (<10cm)
Apically awnletted	Glume lxw: s ~7mm x w ~4mm Glume Shoulder: square Beak Length/Shape: v. short x acute	1/750 Awned (0.133%) approx. 1.3/1000
OK15MASBx7ARS8-	Type: HRWW Spkdens: Lax to Mid-Dense Spike Shape: Strap Chaff Color: White	No variants listed.
20	Glume 1 x w: m x w Glume Shoulder: Wanting Beak Length/Shape: med-long/Acuminate	
Overland	Type: Spkdens: mid dense Spike Shape: tapering to oblong Chaff Color: white	Taller (10-15cm) or
aka NE01643	Glume 1 x w: 1 x n Glume Shoulder: narrow to midwide Beak Length/Shape: m x accum	awnless and/or with red chaff Up to 10/1000
Paradise	Type: HRWW Spkdens: lax Spike Shape: Tapering Chaff Color: tan (updated 2018)	Taller by 8 to 15 cm 10/1000 (1%)
Taradisc	Type: Tikw w <u>Spraces.</u> Tax Spike Shape: Tapering Chair Color: tail (updated 2010)	White seed up to 1.8%
	Glume l x w: 1 x m Glume Shoulder: oblique Beak Length/Shape: medium x acute	(chaff color updated to bronze 6/19/18)
Pennbar 66 Barley	Winter barley. Six-row barley; medium tall; head 10-15 cm above flag; straight neck; erect and	5/1000 awnletted
	dense and compact head (spike); awns longer than length of glumes. Collar is closed; glume is ½	
Post 90	length of lemma; glume is hairy; few teeth on margin (edge) of lemma.	No variants listed
Post 90	Post is a short-strawed,6-rowed, rough-awned barley with mid-to late-season maturity. Early plant growth is semi-prostrate when fall-seeded. Spikes are short and dense with rachis internodes	No variants fisted
	approximately 2 mm in length and edged with long hairs, Glumes are partially covered with long	
	hairs and are approximately one-half the length of the lemma. Lemma awns are long and glume	
	awns are longer than the glumes. The covered kernels have a white aleurone and have a few lemma	
D ((T ': 1)	teeth on the lateral and marginal nerves. Hulls are slightly to semi-wrinkled	X
Presto (Triticale)	Winter Triticale; hexaploid; mid-tall; blue-green at boot stage; flag not twisted, waxy bloom on leaf at boot, leaf recurved; mid-dense, Oblong, fully awned; Glumes have hair, strongly colored,	None available
	mid-long, narrow, with oblique shoulder and acuminate beak.	
Ray	Type: HRWW Spkdens: lax Spike Shape: oblong Chaff Color: white	Dark chaff < 5/10000 (0.05%)
Apically Awnletted		Fully Awned < 10/10000 ((0.1%)
	Glume l x w: 1 x w Glume Shoulder: oblique Beak Length/Shape: ? x acute	
Rock Star	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: tan	2/1000 Taller
	Glume 1 x w: 1 x n Glume Shoulder: oblique Beak Length/Shape: 1 x acuminate	Up to 1.8% white seed variant
Ruth	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: tan	Taller by 5 to 15 cm
aka		Red chaff
NE10589	Glume lxw: s x w Glume Shoulder: square to elevated Beak Length/Shape: m x acuminate	Awnless
		Variants up to 1% (10/1000)

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Shelby 427 Oat	Spring oat; mature stem color is yellow; nodes on upper stem hairy; hairless leaf margin ; Equilateral panicle (head); medium panicle size; midbroad panicle width; 21 branches on panicle in four whorls; 9 veins on glume and glume color is striped; lemma is awnless, hairless and white in color.	No variants listed
Short Beard Thunder Triticale NT06427	Type: Triticale Spkdens: mid dense Spike Shape: Oblong Chaff Color/pubesence: tan/pubesent Neck: Straight, moderately hairy Awnedness: Awnletted Glume l x w: 1 x w Glume Shoulder: wanting Beak length/shape: ?/acuminate	Up to 6% off types may be found in NT06427 of which most are awned, but also a few off types may be taller than the majority of lines which are awnletted and shorter.
Showdown	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white Glume I x w: 1 x m Glume Shoulder: oblique Beak Length/Shape: m? x acuminate	Taller <10cm 1 per 1000 Bronze glumes 1 per 800
Smiths Gold	Type: HRWW Spkdens: mid dense Spike Shape: Tapering Chaff Color: white Glume 1 x w: 1 x m Glume Shoulder: oblique Beak Length/Shape: ? x acuminate	Taller by <10 cm 1/800 Bronze glumes 1/500
Spirit Rider	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Glume I x w: m x m Glume Shoulder: rounded Beak Length/Shape: ? x acuminate	Taller by <10 cm 1/500 Bronze glume 1/500
Strad CL Plus	Type: HRWW Spkdens: lax to mid dense Spike Shape: tapering Chaff Color: tan Glume 1 x w: m x m Glume Shoulder: oblique Beak Length/Shape: med to long x acum	White chaff < 1/1000 (0.1%)
SY 517 CL2	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Glume I x w: m x n Glume Shoulder: oblique Beak Length/Shape: med x acuminate	Taller by 8 to 15 cm 10/1000 (1%) Awnless 10/1000 (1%) White seed up to 1.8%
SY Achieve CL2	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Glume l x w: m x n Glume Shoulder: oblique Beak Length/Shape: m x acuminate	Taller (8-15cm) 8 per 1000 Awnless 1 per 10,000 Up to 10 per 1000 total Up to 1.8% white seed variant
SY Benefit	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Glume l x w: s x n Glume Shoulder: oblique Beak Length/Shape: m x acuminate	Larger 6 per 1000 Taller (8-15cm) 2 per 1000 Awnless 1 per 1000 Up to 10 per 1000 total Up to 1.8% white seed variant
SY Flint	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Glume 1 x w: m x m Glume Shoulder: oblique Beak Length/Shape: m / acuminate	1/1000 taller (8 to 15 cm) or awnletted

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SY-Grit	Type: HWWW Spkdens: lax Spike Shape: tapering Chaff Color: white	8/1000 Taller (8 to 15cm) 1/1000 Awnless
	Glume l x w: 1 x m Glume Shoulder: square Beak Length/Shape: long x acuminate	
SY Legend CL2	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: tan Revised for 2021 based on PVP certificate 201800226 Glume l x w: l x m Glume Shoulder: oblique Beak Length/Shape: med x acuminate	Taller amounts not specified Awned Variants up to (1%) White seed up to 1.8%
SY Llano	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber Glume 1 x w: m x n Glume Shoulder: square Beak Length/Shape: m / acute	1/1000 taller 1/1000 awnless
SY Monument	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white/amber Glume 1 x w: med x med Glume Shoulder: oblique Beak Length/Shape: med / acuminate	Taller 9 per 1000 Red chaff 1 per 1000
SY TF 135	Type: Triticale Spkdens: mid dense Spike Shape: fusiform Chaff Color: white	1/1000 Taller
aka AG 135 Triticale	Glume 1 x w: ml x n Glume Shoulder: oblique Beak Length/Shape: m x acute Awnletted; Neck shape: Wavy Neck hairiness: slight to m Height: Semi-dwarf	1/1000 extra long awns
SY TF 813 Triticale	Type: Triticale Spkdens: mid dense Spike Shape: clavate Chaff Color: white Glume I x w: 1 x n Glume Shoulder: wanting Beak Length/Shape: m x acute Awnletted; Neck shape: Wavy Neck hairiness: moderate Height: Semi-dwarf	1/1000 Taller 1/1000 Awned
SY Rugged	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white Glume I x w: m x n Glume Shoulder: oblique Beak Length/Shape: m x acuminate	Taller (8-15cm) 2 per 1000 Awnless 1 per 1000 Red chaffed 5 per 1000 Up to 10 per 1000 total Up to 1.8% white seed variant
SY-Sky	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white/amber Glume l x w: short x medium Glume Shoulder: oblique Beak Length/Shape: med / acute	Taller 8/1000
SY-Southwind	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white Glume 1 x w: m x m Glume Shoulder: square Beak Length/Shape: m x acuminate	8/1000 Taller 1/10000 Awnletted
SY-Sunrise	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Glume 1 x w: m x m Glume Shoulder: oblique Beak Length/Shape: m x acuminate	7/1000 Taller 1/1000 Awnletted

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SY-Wolf	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	7/1000 Taller (8-15 cm)
i		1/1000 Awnless
i	Glume l x w: ml x mw Glume Shoulder: square Beak Length/Shape: 1 x acuminate	1/1000 Red Chaff
i		Up to 8/1000 total
		1.8 % white seed
SY Wolverine	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	
•		1.8% white seeded variant
i	Glume l x w: 1 x n Glume Shoulder: oblique Beak Length/Shape: short* x acuminate	
~	*Amended by company 2020	144000 = 4 4 4 4 4
Sunshine	Type: HWWW Spkdens: ? Spike Shape: ? Chaff Color: white	1/1000 Taller (2 spike lengths)
		1/2000 Awnless
	Glume l x w: ? Glume Shoulder: ? Beak Length/Shape: ?	1/1000 Red Chaff
T158	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white-amber	Awnless
		Brown glumes
i	Glume l x w: m x w Glume Shoulder: oblique Beak Length/Shape: m x acute	Taller
		Total 3/10,000
T-173 (awnless)	Type: SRW Spkdens: mid dense Spike Shape: tapering Chaff Color: tan	1/1000 Brown glumes
		1/1000 Talls
i	Glume l x w: s x w Glume Shoulder: square Beak Length/Shape: m x acute	1/1000 Awned (usually 6-12" shorter)
TAM 107	Type: HRWW Spkdens: Spike Shape: Chaff Color: reddish brown	5/5000 Whites & tall reds
		5/5000 Tall whites
	Glume l x w: ? x w Glume Shoulder: oblique Beak Length/Shape: M x -	
TAM 110	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: brown	5/5000 Talls (twice head length)
		5/5000 White chaffed
	Glume l x w: m x n-mw Glume Shoulder: o-s Beak Length/Shape: 3-4mm x acuminate	
TAM 111	Type: HRWW Spkdens: dense Spike Shape: fusiform Chaff Color: white	2/1000 Taller (4 –6 inches)
		1/1000 Red chaff color
	Glume l x w: s x mw Glume Shoulder: oblique Beak Length/Shape: s(6-7mm) x acuminate	1/1000 Awnless
TAM 112	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: red	5/1000 Taller (10 cm)
		, , ,
	Glume l x w: m x m Glume Shoulder: elevated Beak Length/Shape: x acuminate	
TAM 113	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: white	1/1000 4 - 6 " taller with white glumes
		1/10,000 4-6" taller with red glumes
	Glume l x w: m x m Glume Shoulder: oblique Beak Length/Shape: med x acuminate	

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TAM 114	Type: Spkdens: mid dense Spike Shape: oblong Chaff Color: tan	6/1000 taller 2/1000 white
	Glume l x w: m x m Glume Shoulder: oblique Beak Length/Shape:	1/1000 white 1/1000 white awnless 1/1000 red awnless
TAM 115	Type: Spkdens: mid dense Spike Shape: oblong Chaff Color: red Glume l x w: m x m Glume Shoulder: oblique Beak Length/Shape: ? x acuminate	Taller up 5 to 15cm 8/1000 White glumes, awned 1/1000 Awnless red 1/2000 Awnless white 1/2000
TAM 204	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: red Apically Awnletted Glume 1 x w: m x m(3-5mm) Glume Shoulder: oblique Beak Length/Shape: m x obtuse	1/1000 Taller (4 to 6 inches)
TAM 205	Type: Spkdens: mid dense Spike Shape: oblong Chaff Color: white Glume I x w: m x m Glume Shoulder: oblique Beak Length/Shape: ? x acuminate	Taller 5 to 15 cm 1/100
TAM 304	Type: HRWW Spkdens: dense Spike Shape: oblong Chaff Color: white Glume I x w: m(8mm) x m Glume Shoulder: oblique Beak Length/Shape: m x acuminate	1/1000 Taller (4 to 6 inches)
Tambar 501 Winter Barley	<u>Type:</u> BARLEY 6 row Plant height : short <u>Spkdens:</u> dense <u>Spike Shape:</u> oblong, slightly waxy Glumes: length 1/2 of lemma, awns less than equal to length of glumes and semi smooth Lemma: awns longer than spike, surface rough, teeth few, shape of base slight crease, hair present	None listed
Tatanka	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white Glume l x w: m x m Glume Shoulder: square Beak Length/Shape: m x obtuse	Taller 1/1000 White seeded 1/1000
TriCal 102 Triticale	TYPE: Winter triticale. Description: Spikes (heads) are waxy, narrow, long, slightly recurved, and predominantly awnletted. Glumes are hairless, waxy, and light yellow at maturity. Short awns on four to five spikelets at the top of the spike	1/3500 fully awned, moderate to dense neck hair 1/5000 Tan to light brown glumes
TriCal 348 Triticale	TYPE: Winter triticale Description: Spike is mid-dense, and oblong. Glumes tend to be long and mid-wide to wide, shoulders are usually wanting. Beak is obtuse. 348 is slightly less waxy than 102.	5/1000 Awns 4 to 5 cm long and a hairy neck
Turkey Red	very old, pre-certification variety so landraces are possible. Tall, white chaff, fusiform spike narrow wanting to oblique shoulders, awned, beaks 2 to 8 mm	None
Uncharted	Type: HRWW Spkdens: lax to mid dense Spike Shape: tapering Chaff Color: tan Glume l x w: m x m Glume Shoulder: wanting Beak Length/Shape: short to m x acuminate	Taller (< 10 cm) < 1/750 or 13/10000 (0.1333%) White chaff < 1/750 or 13/10000 (0.1333%)

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Underwood	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: bronze	8/1000 taller (8cm)
		1/1000 different chaff color
	Glume l x w: m x m Glume Shoulder: square Beak Length/Shape: m x acuminate	1/1000 awnless
WB2606	Type: SRWW Spkdens: lax Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 20 per 10,000 (0.2%)
		Awnless 10 per 10,000 (0.1%)
aka 9269052	Glume l x w: s x n Glume Shoulder: apiculate Beak Length/Shape: m x acuminate	Bronze head 10 per 10,000 (0.1%)
		Up to 0.50% white seed variant
WB4269	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 20 per 10,000
		Awnless 10 per 10,000
	Glume l x w: l x n Glume Shoulder: square Beak Length/Shape: short* x acuminate	Bronze head 10 per 10,000
	*amended by company 2019	Up to 0.20% white seed variant
WB4303	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white	Bronze chaff 1/1000
		Taller (10 - 20 cm) 2/1000
	Glume 1 x w: 1 x w Glume Shoulder: rounded Beak Length/Shape: 1 x acuminate	Awnless 1/1000
WB4401	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white	Taller 10-15 cm 20 per 10,000
		Awnless 10 per 10,000
	Glume l x w: m x w Glume Shoulder: elevated Beak Length/Shape: short x accuminate	Bronze chaff 10 per 10,000
	Beak length changed to short for 2021 based on revision in AOSCA Aug. small grain VRB	White seed 0.50%
WB4418	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white/amber	Taller by 15 to 20 cm 20/10000 (0.2%)
		Awnless 10/10000 (0.1%)
	Glume l x w: m x n Glume Shoulder: square Beak Length/Shape: med x acuminate	Bronze chaff 10/10000 (0.1%)
		White seed up to 0.5% (50/10000)
WB 4422	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: tan	Taller by 15 to 20 cm 20/10000 (0.2%)
	Purple auricles are present in juvenile plants	Awnless 10/10000 (0.1%)
	Glume l x w: 1 x n Glume Shoulder: oblique Beak Length/Shape: 1 x acuminate	White chaff 10/10,000 (0.1%)
		White seed .25%
WB 4458	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: tan	3/1000 white chaff
		1/1000 talls (>10cm)
	Glume l x w: m x n Glume Shoulder: square Beak Length/Shape: 1 x acuminate	
WB4462	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white	Taller (15-20cm) 20 per 10,000
Shoulder update to elevated		Awnless 10 per 10,000
2019 based on PVP certificate	Glume l x w: 1 x m Glume Shoulder: elevated Beak Length/Shape: 1 x acuminate	Bronze head 10 per 10,000
Continuate		Up to 0.25% white seed variant
WB4483	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white	Taller (15-20cm) 20 per 10,000
		Awnless 10 per 10,000
	Glume 1 x w: 1 x n Glume Shoulder: oblique Beak Length/Shape: 1 x acuminate	Bronze head 10 per 10,000
		Up to 0.5% white seed variant

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WB4510 CLP	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white/amber	Taller (15 to 20 cm) 20/10,000 (0.2%)
	Glume l x w: l x n Glume Shoulder: oblique Beak Length/Shape: long x acuminate	Awnless 10/10,000 (0.1%) Bronze head 10/10,000 (0.1% Up to 0.5% white seed variant
WB4515 Shoulder update to elevated	Type: HRWW Spkdens: lax Spike Shape: tapering Chaff Color: white	Taller (15 to 20 cm) 20/10,000 (0.2%) Awnless 10/10,000 (0.1%)
2019 based on PVP certificated (10-0458)	Glume l x w: m x n Glume Shoulder: elevated Beak Length/Shape: l x acuminate	Bronze head 10/10,000 (0.1% Up to 0.25% white seed variant
WB 4523	<u>Type:</u> HRWW <u>Spkdens:</u> mid dense <u>Spike Shape:</u> oblong <u>Chaff Color:</u> white/amber Purple auricles are present in juvenile plants	Taller by 15 to 20 cm 20/10,000 (0.2%) Awnless 10/10,000 (0.1%)
	Glume l x w: s x m Glume Shoulder: square Beak Length/Shape: ml x acute	Bronze head 10/10,000 (0.1%) White seed .25%
WB4595	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 20/10000 (0.2%) Awnless 10/10000 0.1%
	Glume l x w: m x w Glume Shoulder: elevated Beak Length/Shape: long x acuminate	Bronze head 10/0000 (0.1%)
WB4632 aka XF4414	Type: HRWW Spkdens: Mid-Dense Spike Shape: Tapering Chaff Color: White/amber	White seed up to 50/10,000 (0.50%) Taller (15-20cm) 20/10,000 (0.2%)
	Glume l x w: l x m Glume Shoulder: Elevated Beak Length/Shape: Medium/Acuminate	Bronze head 10/10,000 (0.1%) Awnless 10/10,000 (0.1%)
WB4699	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 20/10000 (0.2%) Awnless 10/10000 0.1%
	Glume l x w: m x n Glume Shoulder: elevated Beak Length/Shape: long x acuminate	Bronze head 10/0000 (0.1%)
WB4721	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: brown	1/1000 white chaff 2/1000 taller (15-20 cm)
	Glume l x w: m x n Glume Shoulder: elevated Beak Length/Shape: long x acuminate	1/1000 awnless
WB4733CLP Aka XF4108CLP	Type: HRWW Spkdens: mid dense Spike Shape: Tapering Chaff Color: White/Amber	White seed up to 50/10,000 (0.5%) Taller (15-20cm) 20/10,000 (0.2%)
	Glume l x w: m x n Glume Shoulder: wanting Beak Length/Shape: Short x Acuminate	Bronze head 10/10,000 (0.1%) Awnless 10/10,000 (0.1%)
WB4739 AX Aka LCH18-7069	Type: HRWW Spkden: lax to mid-dense Spike Shape: Tapering Chaff Color: White	None listed
	Glume l x w: 1 x m Glume Shoulder: Oblique Beak Length/Shape: Medium x Acuminate	

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WB4792	Type: HRWW Spkdens: mid dense Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 20/10000 (0.2%)
	Glume 1 x w: m x m Glume Shoulder: elevated Beak Length/Shape: short* x acuminate	Awnless 10/10000 (0.1%) Bronze head 10/0000 0.1%
	*amdended by company	
WB9303	Type: HRSW Spkdens: mid dense Spike Shape: oblong Chaff Color: white/amber	Taller (15-20cm) 20/10,000 (0.2%)
	Classed and Classed Charles And Late Book I and Charles and Charle	Bronze head 10/10,000 (0.1%)
	Glume 1 x w: 1 x n Glume Shoulder: Apiculate Beak Length/Shape: long x acuminate	Awnless 10/10,000 (0.1%) White seed up to 0.5%
WB9590	Type: SRW Spkdens: lax Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 20/10,000
W D9390	Type: SRW Spkdens: lax Spike Shape: tapering Chaff Color: white/amber	Bronze 10/10,000
	Glume l x w: ? x n Glume Shoulder: oblique Beak Length/Shape: long x acuminate	Awnless 10/10,000
WB 9606	Type: HRS Spkdens: lax Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 20/10,000
	Purple auricles are present in juvenile plants	Bronze 10/10,000
	Glume l x w: m x n Glume Shoulder: oblique Beak Length/Shape: long x acuminate	Awnless 10/10,000
		White seed 0.5%
WB9719	Type: SRW Spkdens: lax Spike Shape: tapering Chaff Color: white/amber	Taller (15-20cm) 20/10,000
		Bronze 10/10,000
	Glume 1 x w: ? x m Glume Shoulder: elevated Beak Length/Shape: long x acuminate	Awnless 10/10,000
WB-Cedar	<u>Type:</u> HRWW <u>Spkdens:</u> mid dense <u>Spike Shape:</u> fusiform <u>Chaff Color:</u> tan	5/1000 Taller
	Classed Land 1 Classes Charles and Dark I and 4 Classes and 2 classes an	1/1000 Bronze/Brown Chaff
WD D CL	Glume 1 x w: ml x Glume Shoulder: square Beak Length/Shape: s x acuminate	5/1000 White seed
WB-Deuce CL+	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: bronze	1/1000 Later maturing plants 1/1000 Taller
	Glume 1 x w: 1 x Glume Shoulder: elevated Beak Length/Shape: m x acuminate	1/1000 Taller 1/1000 Shorter, white chaffed
	Giunie 1 x w. 1 x Giunie Snoulder. Cievaled Beak Length/Snape. In x acummate	1/1000 Shorter, white charled
WB-Grainfield	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white	2/10,000 Awnless
	<u></u>	5/1000 Talls (10 cm)
	Glume 1 x w: s ~7mm x n Glume Shoulder: square Beak Length/Shape: ? x acuminate	4/1000 Red Chaff
WB-Redhawk	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: brown	1/10,000 awnless
		1/200 tall (10 cm)
	Glume l x w: m x n Glume Shoulder: square Beak Length/Shape: 1 x acuminate	15/1000 white chaff
		Up to 7/100 darker chaff
WB-Stout	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: bronze	1/1000 Taller (> 10 cm)
	Glume 1 x w: 1 x m Glume Shoulder: square Beak Length/Shape: s x acuminate	1/1000 White chaff

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Whistler	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: white	Taller 1/1000
(CO13D1783)		Brown glumes 1/1000
	Glume l x w: m x n Glume Shoulder: rounded Beak Length/Shape: m x acuminate	Awnless 1/1000
		White seeded 1/200
Willow Creek	TYPE: HRWW awnletted variety, At maturity 93% of heads were tan to amber, 5% white, < 2%	No variants listed for this variety.
awnletted	red, chaff is described as white. Source: Journal of Plant Registrations, Vol. 3, No. 2, May 2009	
Winterhawk	Type: HRWW Spkdens: mid dense Spike Shape: fusiform Chaff Color: white-amber	1/1000 Taller (5-10mm)
	Glume 1 x w: ml x? Glume Shoulder: e to o* Beak Length/Shape: m x acuminate	1/10000 Brown/bronze chaff
	*slightly elevated shoulder falls to oblique	
Zenda	Type: HRWW Spkdens: mid dense Spike Shape: oblong Chaff Color: white	Taller 1/1000
		Dark chaff 1/1000
	Glume l x w: m x m Glume Shoulder: square Beak Length/Shape: ml x acuminate	