Name/Class/Pedigree	Origin	HD	НТ	SS	COL**	YR	LR	SR	WSMV	+ TW	PRO ⁺	· MILI	_ BAK	CE Comments
AM Eastwood Hard red winter Not Disclosed	AgriMaxx 2017	3	1	2	4	3	7	2	6	5	3	4	4	AgriMAXX release (2017). First entered into CSU Variety Trials in 2018. Medium-early, short, good winterhardiness, good straw strength. Moderately resistant to stripe rust, moderately susceptible to leaf rust. Good test weight and milling and baking quality.
Antero Hard white winter KS01HW152-1/TAM 111	CSU 2012	4	6	7	5	3	7	2	5	5	5	4	6	CSU release (2012), marketed by PlainsGold. Medium height and maturity, good test weight, fair straw strength, good resistance to stripe rust. Moderate sprouting tolerance.
Avery Hard red winter TAM 112/Byrd	CSU 2015	5	7	5	5	8	8	8	2	5	6	4	3	CSU release (2015), marketed by PlainsGold. Doubled haploid-derived line, similar to Byrd with higher yield potential, larger kernels and slightly improved quality. Carries wheat curl mite resistance from TAM 112 parent. Susceptible to stripe rust.
Brawl CL Plus Hard red winter Teal 11A/Above//CO99314	CSU 2011	2	6	1	8	6	6	7	5	4	1	3	3	CSU release (2011), marketed by PlainsGold. Two-gene Clearfield wheat. Excellent test weight, straw strength, milling and baking quality. Early maturity, medium height, long coleoptile. Intermediate reaction to both stripe rust and leaf rust. Certified seed only.
Breck Hard white winter Denali/HV9W07-482W//Antero	CSU 2017	4	6	3	7	3	5	2	4	1	1	2	3	CSU release (2017), marketed by PlainsGold in CWRF-Ardent Mills UltraGrain Premium Program. Good stripe rust resistance, sprouting tolerance, straw strength, grain protein deviation, and quality. Very high test weight, lower polyphenol oxidase (PPO) activity for improved whole grain bread and noodle quality. Certified seed only.
Byrd Hard red winter TAM 112/CO970547-7	CSU 2011	3	6	7	5	8	7	8	2	4	6	4	3	CSU release (2011), marketed by PlainsGold. Excellent drought tolerance and quality. Average test weight and straw strength. Moderately susceptible to stripe rust. Carries wheat curl mite resistance from TAM 112 parent.
Byrd CL Plus Hard red winter CO06072/4*Byrd	CSU 2018	5	7	5	4	8	5	8	5	5	6	5	5	CSU release (2018), marketed by PlainsGold. Two-gene Clearfield wheat in Byrd background. Highly similar to Byrd with exception of tolerance to Beyond herbicide. Has shown some non solid-stem based tolerance to wheat stem sawfly. Certified seed only.
Canvas Hard red winter Denali/Antero//Byrd	CSU 2018	5	3	1	6	3	6	2	3	3	4	3	3	CSU release (2018), marketed by PlainsGold. Hard red winter, medium maturing, medium-short, good straw strength. Good stripe and stem rust resistance and carries wheat curl mite resistance from Byrd parent. Good test weight and milling and baking quality.
CO14A055-258 Hard red winter AF28/Byrd//AF10/2*Byrd	CSU EXP	4	5	7	5	8	8	5	3	5	6	5	3	CSU experimental line, on increase for potential release. CoAXium wheat for winter annual grassy weed control.
CO14A136-135 Hard red winter AF10/2*Byrd//AF26/Byrd	CSU EXP	6	5	5	5	4	8	4	3	7	4	5	3	CSU experimental line, on increase for potential release. CoAXium wheat for winter annual grassy weed control.

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Name/Class/Pedigree	Origin	HD	HT	SS	COL**	YR	LR	SR	WSMV	⁺ TW	PRO**	MILL	BAKE	Comments
CO15D098R Hard red winter TAM 114/Antero//Byrd	CSU EXP	6	9	9	7	3	3	3	2	2	7	3	4	CSU experimental line, on increase for potential release. Medium maturing, tall, marginal straw strength. Good resistance to all three rusts and carries resistance to the wheat curl mite from Byrd. Good test weight and milling and baking quality.
CO16SF065 Hard red winter Antero/Judee//Antero	CSU EXP	4	5	5	4	6	3	4		5	4	6	5	CSU experimental line, on increase for potential release. Semi-solid stem for partial resistance to the wheat stem sawfly.
CO16SF070 Hard red winter Antero/Judee//Antero	CSU EXP	3	4	5	4	5	1	4		5	6	5	6	CSU experimental line, on increase for potential release. Semi-solid stem for partial resistance to the wheat stem sawfly.
CP7017AX Hard red winter Undisclosed	Croplan 2020	5	5	3	4	3	4	1		7				CROPLAN by WinField United release (2020). First entered into CSU trials in 2020. CoAXium wheat for winter annual grassy weed control. Strong yield potential, strong drought tolerance, tolerates acid soils and resistant to soilborne mosaic virus. Certified seed only.
CP7050AX Hard red winter Undisclosed	Croplan 2020	1	5	3	6	1	3	7		3				CROPLAN by WinField United release (2020). First entered into CSU trials in 2020. CoAXium wheat for winter annual grassy weed control. Excellent yield potential, early maturity, strong straw, good test weight, tolerance to acid soils, good resistance to stripe rust and soilborne mosaic virus. Certified seed only.
CP7869 Hard red winter Undisclosed	Croplan 2017	8	5	3	5	1	1	1		3				CROPLAN by WinField United release (2017). First entered into CSU trials in 2020. High yield potential, strong straw, good test weight. Good resistance to leaf, stem, and stripe rusts.
CP7909 Hard red winter Undisclosed	Croplan 2018	5	7	5	5	7	5	5	6	4		5	5	CROPLAN by WinField United release (2018). First entered into CSU trials in 2020 Excellent yields and higher protein potential with very good winterhardiness, broad adaptation, and excellent soilborne mosaic resistance.
Crescent AX Hard red winter (AF28/Byrd)//(AF10/2*Byrd)	CSU 2018	2	6	5	5	4	6		2	3	7	3	3	CSU release (2018), marketed by PlainsGold. CoAXium wheat for winter annual grassy weed control. Approximately 66% Byrd and 34% Hatcher parentage. Earlier and much improved yield and test weight relative to Incline AX. Intermediate reaction to stripe rust and carries wheat curl mite resistance from Byrd parent. Certified seed only.
Denali Hard red winter CO980829/TAM 111	CSU 2011	7	7	2	5	7	6	3	4	4	6	4	6	CSU release (2011), marketed by PlainsGold and Kansas Wheat Alliance in Kansas. Excellent test weight. Medium tall, medium-late, medium-long coleoptile. Good straw strength and average quality. Moderate susceptibility to stripe and leaf rust.
Fortify SF Hard red winter Byrd/Bearpaw//Byrd	CSU 2019	4	6	8	4	7	7	4	2	4	7	5	6	CSU release (2019), marketed by PlainsGold. Medium height, medium maturity. Carries wheat curl mite resistance from Byrd parent and semi-solid stem trait for partial resistance to the wheat stem sawfly. Certified seed only.

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Name/Class/Pedigree	Origin	HD	HT	SS	COL**	YR	LR	SR	WSMV	' ⁺ TW	PRO	MILI	BAK	E Comments
Guardian Hard red winter Antero/Snowmass//Byrd	CSU 2019	5	5	7	5	3	4	2	1	2	1	4	3	CSU release (2019), marketed by PlainsGold. Medium height, medium maturity. Excellent resistance to WSMV due to combination of resistance to wheat curl mite and the virus itself. Good combined resistance to all three rusts, good test weight, good milling and baking quality, high grain protein deviation. Certified seed only.
Hatcher Hard red winter Yuma/PI 372129//TAM-200/3/4*	CSU 2004 Yuma/4/KS91H184/Vist	5 a	4	7	5	4	7	3	6	5	7	5	4	CSU release (2004), marketed by PlainsGold. Medium maturing semidwarf. Good test weight, moderate resistance to stripe rust, good milling and baking quality. Develops "leaf speckling" condition.
Incline AX Hard red winter (AF28/Byrd)//(AF10/2*Byrd)	CSU 2017	8	4	4	5	6	6		4	9	7	8	4	CSU release (2017), marketed by PlainsGold. CoAXium wheat for winter annual grassy weed control. Approximately 66% Byrd and 34% Hatcher parentage. Good quality, good straw strength. Low test weight. Certified seed only.
KS Dallas Hard red winter KS08HW112-6//TX03A0148/Dank	KS 2019 by TR	6	4	6	6	4	2	1	2	6		3	3	KSU-Hays release (2019), marketed by the Kansas Wheat Alliance. First entered in CSU variety trials in 2020. Medium maturity, medium height, average straw strength, medium-long coleoptile, moderate to intermediate resistance to stripe rust, good leaf rust resistance, very good wheat streak mosaic virus resistance, good quality.
KS Silverado Hard white winter KS05HW122-5-2//KS05HW15-2-2	KS 2019 2/KS06HW46-3	2	3	3	5	4	2	2	3	2		3	3	KSU-Hays release (2019), marketed by the Kansas Wheat Alliance. First entered in CSU variety trials in 2020. Early maturity, medium-short, good straw strength, good to moderate resistance to stripe rust, leaf rust, and wheat streak mosaic virus. Good test weight, good milling and baking quality, good pre-harvest sprouting tolerance.
KS Western Star Hard red winter Byrd/KS05HW121-2	KS 2019	5	5	3	6	3	3	5	3	4		2	4	KSU-Hays release (2019), marketed by the Kansas Wheat Alliance. First entered in CSU variety trials in 2020. Medium maturity, medium height, good straw strength, moderate resistance to stripe and leaf rust, resistance to wheat curl mite, good test weight, good end-use quality.
Langin Hard red winter CO050270/Byrd	CSU 2016	2	3	7	4	3	6	8	6	5	6	5	2	CSU release (2016), marketed by PlainsGold. Early maturing semidwarf. Good drought stress tolerance and winterhardiness, stripe rust resistance, and quality. Medium coleoptile. Carries wheat curl mite resistance from Byrd parent. Very high yield potential for irrigation, but straw strength requires use of growth regulator.
LCS Helix AX Hard red winter Undisclosed	Limagrain 2019	4	4	3	6	7	4	1		3		4	2	Limagrain release (2018), first entered in CSU Variety Trials in 2020. CoAXium wheat for winter annual grassy weed control. Broad adaptation, good resistance to stem rust and Fusarium head blight. Certified seed only.
LCS Valiant Hard red winter NI03418/Camelot (sel.)	Limagrain 2018	3	5	6	5	6	5	7	8	4	6	3	5	Limagrain release (2018), first entered in CSU Variety Trials in 2019. Medium-early maturing, good drought stress tolerance. Good Hessian fly and stem rust resistance and end-use quality.
Long Branch Hard red winter Not Disclosed	Dyna-Gro 2016	4	5	5	6	3	3		5	6	5	5	6	Dyna-Gro release (2016). First entered into CSU Variety Trials in 2018. Medium-late maturing, medium-tall with good straw strength, good winterhardiness, and moderate resistance to stripe rust.

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Name/Class/Pedigree	Origin	HD	HT	SS	COL**	YR	LR	SR	WSMV	⁺ TW	PRO**	MILL	BAK	Comments
Monarch Hard white winter CO07W722-F5/Snowmass//CO07V	CSU 2018 V722-F5	5	3	1	4	5	5	2	4	4	8	5	4	CSU release (2018), marketed by PlainsGold. Hard white winter with excellent straw strength and very high irrigated yield potential. Good stripe rust resistance. Quality more similar to Breck, but very low PPO. Certified seed only.
Snowmass Hard white winter KS96HW94//Trego/CO960293	CSU 2009	5	7	9	3	7	6	2	3	5	7	6	2	CSU release (2009), marketed by PlainsGold in CWRF-Ardent Mills Ultragrain Premium Program. Hard white wheat. Medium-maturing, medium-tall, poor straw strength. Good WSMV resistance, moderately susceptible to stripe rust, moderate sprouting tolerance. Certified seed only.
Snowmass 2.0 Hard white winter CO07W722-F5/Snowmass//Brawl	CSU 2018 CL Plus	3	4	3	5	4	5	1	3	4	4	4	1	CSU release (2018), marketed by PlainsGold in CWRF-Ardent Mills Ultragrain Premium Program. Hard white wheat, quality profile very similar to Snowmass but low PPO and better grain protein deviation. Good stripe and stem rust resistance and wheat streak mosaic virus resistance. Good straw strength, good test weight. Certified seed only.
Spur Hard red winter MT02113*4/MTS0359	Agripro 2016	9	3	4	6	5	4		8	9	1	8	2	MT State release (2016), marketed by Crop Research Foundation of Wyoming and Agripro. First entered into CSU trials in 2015. Late maturity, average leaf and stripe rust resistance, very susceptible to mite-transmitted viruses. Carries solid stem trait conferring protection against wheat stem sawfly damage.
Sunshine Hard white winter KS01HW152-6/HV9W02-267W	CSU 2014	2	4	3	6	5	6	2	7	6	2	4	3	CSU release (2014), marketed by PlainsGold in CWRF-Ardent Mills Ultragrain Premium Program. Hard white wheat. Excellent quality, good sprouting tolerance and straw strength, intermediate reaction to stripe rust. Very susceptible to mite-transmitted viruses. Certified seed only.
SY Legend CL2 Hard red winter Agripro Exp/AP503 CL2 sib	Agripro 2018	4	3	5	2	3	3		5	4	2	6	5	Agripro release (2018), first entered in CSU trials in 2018. Two-gene Clearfield wheat. Good overall disease tolerance. Stewardship Agreement requires no saved seed. Certified seed only.
SY Monument Hard red winter BC991149-11/00x0090-4	Agripro 2014	7	5	4	4	2	3	2	8	6	4	4	1	Agripro release (2014). First entered in CSU Variety Trials in 2014. Good drought tolerance, winterhardiness, and resistance to both leaf and stripe rust. Excellent enduse quality. Very susceptible to mite-transmitted viruses.
SY Rugged Hard red winter Greer/Doans	Agripro 2017	5	1	4	5	2	5	3	8	6	3	2	3	Agripro release (2016), first entered in CSU Variety Trials in 2017. Dryland adapted, good stripe rust resistance, good milling and baking quality. Very susceptible to mite-transmitted viruses.
SY Sunrise Hard red winter BC98337-10-53/CDC Falcon//NE03	Agripro 2015 458	6	1	1	3	3	4	2	8	2	4	3	7	Agripro release (2015), first entered in 2015 CSU Irrigated Trials. Short semidwarf, very good straw strength, winterhardiness, drought tolerance, stripe rust resistance, test weight. Marginal baking quality, very susceptible to mite-transmitted viruses. Stewardship Agreement requires no saved seed. Certified seed only.
SY Wolf Hard red winter W99-331/97x0906-8	Agripro 2010	7	4	2	4	4	2	2	6	5	1	4	6	Agripro release (2011). First entered in CSU Variety Trials in 2011. Good resistance to tan spot, septoria, leaf and stripe rust, and bacterial leaf streak. Best performance in Colorado trials under irrigation and in the I-70 corridor counties and further north. Very good straw strength and grain protein deviation.

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Name/Class/Pedigree	Origin	HD	HT	SS	COL**	YR	LR	SR	WSMV	⁺ TW	PRO [™]	MIL	L BAK	E Comments
SY Wolverine Hard red winter Undisclosed	Agripro 2019	4	2	2	5	4	2	2	4	5	3	2	6	Agripro release (2019), first entered in CSU trials in 2019. Good overall disease resistance, good straw strength. Similar to SY Wolf in reaction to wheat streak mosaic virus.
TAM 114 Hard red winter TAM 111/TX98A0050	TX 2014	3	5	3	5	2	4	7	6	2	2	4	1	Texas A&M release (2014), marketed by AGSECO. First entered in CSU trials in 2015. Good resistance to leaf and stripe rust and Hessian fly. Good test weight, grain protein deviation, and baking quality.
Thunder CL Hard white winter KS01-5539/CO99W165	CSU 2008	3	4	1	6	4	5	4	8	4	7	5	3	CSU release (2008), marketed by PlainsGold in CWRF-Ardent Mills Ultragrain Premium Program. Single-gene hard white Clearfield wheat. Good straw strength for irrigation. Excellent quality, moderate stripe rust resistance, moderate sprouting susceptibility. Very susceptible to mite-transmitted viruses. Certified seed only.
WB-Grainfield Hard red winter G982231/G982159//KS920709W	Westbred 2012	2	6	3	1	4	6	2	8	4	5	3	6	Westbred release (2012). First entered into CSU Trials in 2013. Early maturing tall semi-dwarf. Good leaf and stripe rust resistance, shorter coleoptile. Very susceptible to mite-transmitted viruses.
WB4269 Hard red winter KS98W0512-24//HV9W02-846R/H	Westbred 2016 HV9W96-1271R-1	1	2	3	5	2	4	2	9	5	9	6	6	Westbred release (2016), first entered in CSU trials in 2019. Medium-short plant height, early maturity, with good straw strength. Very good Fusarium head blight tolerance, so target irrigated acres following corn. Very susceptible to mitetransmitted viruses. Grower Agreement required, no saved seed. Certified Seed Only.
WB4303 Hard red winter PFAU/WEAVER/3/MASON/JGR//PE	Westbred 2015 COS/4/FARMEC	4	1	1	5	6	4	1	8	8	1	5	6	Westbred release (2015), first entered in CSU Variety Trials in 2016. Medium short, medium-early, very good straw strength. Moderately resistant to leaf rust, intermediate reaction to stripe rust. Low test weight. Best adapted for irrigated production conditions. Very susceptible to mite-transmitted viruses.
WB4418 Hard red winter XA4402	Westbred 2017	4	2	1	2	4	4		5	6	5	8	4	Westbred release (2017), first entered in CSU trials in 2018. Medium short plant height, medium maturity, with excellent straw strength. Average to above average fungal and viral disease package. Has shown some non solid-stem based tolerance to wheat stem sawfly. Grower Agreement requires no saved seed. Certified seed only.
WB4462 Hard red winter TAM 203//P25R47/Hitch	Westbred 2015	3	8	5	4	7	3	4	8	3	3	2	5	Westbred release (2015), first entered in CSU trials in 2017. Western adapted variety with a taller plant stature and medium-early maturity. Good winter hardiness and drought tolerance, moderately susceptible to stripe rust. Very susceptible to mitetransmitted viruses.
WB4595 Hard red winter Undisclosed	Westbred 2018	5	5	3	4	4	4		4	3	8	4	9	Westbred release (2018), first entered in CSU trials in 2019. Medium plant height, medium maturity, with very good drought tolerance and standability, so a good fit fo either irrigated or dryland acres. Very good fungal and viral disease package. Very poor baking quality. Grower Agreement required, no saved seed. Certified Seed Only.
WB4699 Hard red winter Undisclosed	Westbred 2018	6	2	2	3	4	3		4	7	7	7	9	Westbred release (2018), first entered in CSU trials in 2019. Short plant height, very high tillering with very good straw strength. Improved Fusarium Head Blight tolerance, so target irrigated acres following corn. Very good fungal and viral disease package. Very poor quality. Grower Agreement required, no saved seed. Certified

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WB4792 Hard red winter Undisclosed	Westbred 2018	8	6	3	3	4	2		5	4	8	4	7	Westbred release (2018), first entered in CSU trials in 2019. Medium plant height, medium-late maturity, good drought tolerance and straw strength. Very good fungal and viral disease package. Marginal baking quality. Grower Agreement required, no saved seed. Certified Seed Only.
Whistler Hard red winter CO08W218/Snowmass//Byrd	CSU 2018	8	7	9	5	3	6	1	2	6	5	7	3	CSU release (2018), marketed by PlainsGold. Hard red winter, later maturing, tall, marginal straw strength. Good stripe and stem rust resistance and carries wheat curl mite resistance from Byrd parent. Very good milling and baking quality.

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