

Description of Winter Wheat Varieties in Eastern Colorado Dryland and Irrigated Trials (2018)

Name, Class, and Pedigree	Origin	RWA*	HD	HT	SS	COL**	YR	LR	WSMV ⁺	TW	PRO ⁺⁺	MILL	BAKE	Comments
AM Eastwood Hard red winter Not Disclosed	AgriMaxx 2017	S	3	3	2	5	3	7	4	3	--	5	4	AgriMAXX release (2017). First entered into CSU Variety Trials in 2018. Early maturing, medium-short, good winterhardiness, good straw strength. Moderately resistant to stripe rust, moderately susceptible to leaf rust, moderately resistant to WSMV. Good test weight and milling and baking quality.
Antero Hard white winter KS01HW152-1/TAM 111	CSU 2012	S	4	6	8	5	2	7	5	4	6	3	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	S	5	7	4	6	7	7	3	6	7	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. Moderately susceptible to stripe rust.
Brawl CL Plus Hard red winter Teal 11A/Above//CO99314	CSU 2011	S	2	6	1	9	5	6	7	4	1	4	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	S	4	6	4	6	2	5	5	1	4	2	3	CSU release (2017), marketed by PlainsGold. Good stripe rust resistance, sprouting tolerance, straw strength, 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	S	3	5	7	6	7	6	2	6	7	3	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	S	4	7	5	3	7	5	5	7	7	5	6	CSU release (2018), marketed by PlainsGold. Two-gene Clearfield wheat in Byrd background. Highly similar to Byrd with exception of tolerance to Beyond herbicide. Certified seed only.
Canvas Hard red winter Denali/Antero//Byrd	CSU 2018	S	5	3	2	5	2	6	3	3	5	2	3	CSU release (2018), marketed by PlainsGold. Hard red winter, medium maturing, medium-short, good straw strength. Good stripe rust and carries wheat curl mite resistance from Byrd parent. Good test weight and milling and baking quality.
Crescent AX Hard red winter AF28/Byrd//AF10/2*Byrd	CSU 2018	S	3	6	3	6	5	6	3	4	6	3	4	CSU release (2018), marketed by PlainsGold. Carries non-GMO <i>Axigen</i> herbicide tolerance trait. Approximately 66% Byrd and 34% Hatcher parentage. Much improved yield and test weight relative to Incline AX. Intermediate reaction to stripe rust and carries wheat curl mite resistance from Byrd parent.
Denali Hard red winter CO980829/TAM 111	CSU 2011	S	7	7	4	6	7	6	3	3	7	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.

Column Key - Russian wheat aphid resistance (RWA), heading date (HD), plant height (HT), straw strength (SS), coleoptile length (COL), stripe rust resistance (YR), leaf rust resistance (LR), wheat streak mosaic virus tolerance (WSMV), test weight (TW), protein (PRO), milling (MILL) and baking quality (BAKE). Rating scale: 1 - very good, very resistant, very early, or very short to 9 - very poor, very susceptible, very late, or very tall/long. * RWA rating denotes resistance to the original biotype (biotype 1) of RWA. All available cultivars are susceptible to the new biotypes of RWA.

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Hatcher Hard red winter Yuma/PI 372129//TAM-200/3/4*Yuma/4/KS91H184/Vista	CSU 2004	R*	4	3	7	5	5	7	6	7	8	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	S	8	3	4	6	5	6	4	9	8	9	4	CSU release (2017), marketed by PlainsGold. Carries non-GMO <i>Axigen</i> herbicide tolerance trait for winter annual grassy weed control. Approximately 66% Byrd and 34% Hatcher parentage. Good quality, good straw strength. Lower test weight. Certified seed only.
Langin Hard red winter CO050270/Byrd	CSU 2016	S	1	2	8	4	3	5	6	7	6	4	2	CSU release (2016), marketed by PlainsGold. Early maturing semidwarf. Good test weight, stripe rust resistance, and quality. Medium coleoptile. Carries wheat curl mite resistance from Byrd parent. Straw strength marginal for irrigated production.
LCS Chrome Hard red winter Not Disclosed	Limagrain 2016	S	5	4	4	6	2	2	7	8	4	5	5	Limagrain release (2016), first entered in CSU Variety Trials in 2016. Medium maturing, medium height, good straw strength and test weight. Good resistance to stripe rust and leaf rust.
LCS Mint Hard red winter Overley/CO980829	Limagrain 2011	S	5	7	5	5	4	7	5	3	6	2	3	Limagrain release (2011), first entered in CSU Variety Trials in 2013, previously tested in 2010 under experimental designation CO050175-1. Moderate resistance to stripe rust, good test weight, good milling and baking quality.
Long Branch Hard red winter Not Disclosed	Dyna-Gro 2016	S	7	7	2	--	3	3	--	2	--	--	--	Dyna-Gro release (2016). First entered into CSU Variety Trials in 2018. Medium-late maturing, medium-tall with very good straw strength, good winterhardness, and moderate resistance to stripe rust.
Monarch Hard white winter CO07W722-F5/Snowmass//CO07W722-F5	CSU 2018	S	6	3	1	5	3	5	4	6	6	4	5	CSU release (2018), marketed by PlainsGold. Hard white winter with very good straw strength and very high irrigated yield potential. Good stripe rust resistance. Quality more similar to Sunshine and Breck, but very low PPO.
NHH144913-3 Hard red winter Settler CL/NE07457//Brawl CL Plus	NE EXP	S	4	5	3	--	3	6	7	9	--	4	4	Potential Univ. Nebraska release (2018). Two-gene Clearfield wheat. First entered in CSU trials in 2018. Good stem rust and wheat soilborne virus resistance, seems broadly adapted in the Great Plains. Low test weight.
Oakley CL Hard red winter Above/Danby//KS03HW10	KSU 2013	S	5	5	7	9	1	5	2	5	2	3	4	KSU-Hays release (2013), marketed by the Kansas Wheat Alliance. First entered in CSU Variety Trials in 2013. Single-gene hard red Clearfield wheat. Good test weight, good stripe rust resistance, carries same WSMV resistance as Clara CL and Snowmass. Certified seed only.
Snowmass Hard white winter KS96HW94//Trego/CO960293	CSU 2009	S	4	7	9	4	6	6	3	5	8	6	2	CSU release (2009), marketed by PlainsGold in CWRP-Ardent Mills Ultragrains 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.

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Snowmass 2.0 Hard white winter CO07W722-F5/Snowmass//Brawl CL Plus	CSU 2018	S	4	4	3	4	3	5	3	5	5	3	1	CSU release (2018), marketed by PlainsGold. Hard white winter with quality profile very similar to Snowmass but low PPO and better grain protein deviation. Good stripe rust and wheat streak mosaic virus resistance. Good straw strength, good test weight.
Sunshine Hard white winter KS01HW152-6/HV9W02-267W	CSU 2014	S	1	3	3	7	5	6	8	5	3	4	2	CSU release (2014), marketed by PlainsGold in CWRP-Arden 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	Syngenta 2018	S	4	5	5	5	3	2	5	2	--	3	4	Syngenta release (2018), first entered in CSU trials in 2018. Two-gene Clearfield wheat. Excellent yield record in the western High Plains. Good overall disease tolerance. Stewardship Agreement requires no saved seed. Certified seed only.
SY Monument Hard red winter BC991149-11/00x0090-4	Syngenta 2014	S	7	5	4	5	2	2	8	6	5	5	1	Syngenta release (2014). First entered in CSU Variety Trials in 2014. Good drought tolerance, winterhardiness, quality, and resistance to both leaf and stripe rust. Very susceptible to mite-transmitted viruses.
SY Rugged Hard red winter Greer/Doans	Syngenta 2017	S	5	1	5	5	2	3	8	5	3	3	3	Syngenta 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 Wolf Hard red winter W99-331/97x0906-8	Syngenta 2010	S	6	4	2	5	3	2	6	6	4	3	6	Syngenta release (2011). First entered in CSU Variety Trials in 2011. Good resistance to tan spot, septoria, leaf rust, and stripe rust. Best performance in Colorado trials under irrigation and in the I-70 corridor counties and further north.
Thunder CL Hard white winter KS01-5539/CO99W165	CSU 2008	R*	3	6	1	7	4	5	9	7	8	5	3	CSU release (2008), marketed by PlainsGold in CWRP-Arden 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.
Underwood Hard red winter Not Disclosed	Dyna-Gro 2015	S	3	5	2	--	3	2	--	1	--	--	--	Dyna-Gro release (2015). First entered into CSU Variety Trials in 2018. Medium-early maturing, medium plant height, with excellent straw strength and good winterhardiness.
WB-Grainfield Hard red winter G982231/G982159//KS920709W	Monsanto 2012	S	2	6	3	2	2	4	8	3	6	3	6	Monsanto 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.
WB4303 Hard red winter PFAU/WEAVER/3/MASON/JGR//PECOS/4/FARMEC	Monsanto 2015	S	3	3	1	6	6	3	8	9	4	8	4	Monsanto release (2015), first entered in CSU Variety Trials in 2016. Medium short, medium-early, good straw strength, good quality. Moderately resistant to stripe and leaf rust. Lower test weight. Best adapted for irrigated production conditions. Very susceptible to mite-transmitted viruses.

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WB4418 Hard red winter XA4402	Monsanto 2017	S	5	4	1	--	4	4	5	4	--	4	6	Monsanto 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. Grower Agreement requires no saved seed. Certified seed only.
WB4458 Hard red winter KS940786-7//G982163/G982002	Monsanto 2012	S	3	5	1	3	5	7	7	4	2	6	7	Monsanto release (2012), first entered in CSU Variety Trials in 2016. Medium height, medium-early. Good straw strength, winterhardiness, shatter resistance. Good drought and acid soil tolerance. Intermediate reaction to stripe and leaf rust.
WB4462 Hard red winter TAM 203//P25R47/Hitch	Monsanto 2015	S	3	7	4	4	7	3	8	5	3	2	5	Monsanto release (2015), first entered in CSU trials in 2017. Western adapted variety with a taller plant stature and medium maturity. Good winter hardiness and drought tolerance, moderately susceptible to stripe rust. Very susceptible to mite-transmitted viruses.
WB4721 Hard red winter Not Disclosed	Monsanto 2016	S	3	4	3	2	3	2	7	2	1	3	4	Monsanto release (2016), first entered in CSU Variety Trials in 2016. Good test weight, winterhardiness, drought tolerance, straw strength, quality, and resistance to stripe and leaf rust. Grower Agreement requires no saved seed. Certified seed only.
Whistler Hard red winter CO08W218/Snowmass//Byrd	CSU 2018	S	9	7	9	4	2	6	2	6	6	6	3	CSU release (2018), marketed by PlainsGold. Hard red winter, medium-late maturing, tall, fair straw strength. Good stripe rust resistance and carries wheat curl mite resistance from Byrd parent. Good milling and baking quality.
Winterhawk Hard red winter 474S10-1/X87807//HBK736-3	Monsanto 2007	S	4	7	4	8	4	7	6	4	5	2	4	Westbred release (2007). Medium maturing, medium tall, long coleoptile. Intermediate reaction to stripe rust, susceptible to leaf rust, very susceptible to stem rust. Good drought tolerance, test weight, and quality.

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