

Description of Winter Wheat Varieties in Eastern Colorado Dryland and Irrigated Trials (2017)

Name, Class, and Pedigree	Origin	RWA*	HD	HT	SS	COL**	YR	LR	WSMV ⁺	TW	MILL	BAKE	Comments
Antero Hard white winter KS01HW152-1/TAM 111	CSU 2012	S	5	7	8	5	2	7	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	S	6	7	7	5	7	8	3	4	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	3	9	5	6	7	4	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.
Byrd Hard red winter TAM 112/CO970547-7	CSU 2011	S	4	6	7	6	7	8	2	4	3	2	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.
CO12D2011 Hard white winter Denali/HV9W07-482W//Antero	CSU EXP	S	5	5	4	6	2	5	5	1	2	3	CSU experimental HWW, on increase for possible release fall 2017. 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.
CO14A058 Hard red winter (AF28/Byrd)//(AF10/2*Byrd)	CSU EXP	S	6	6	7	5	6	6	4	7	8	6	CSU experimental HRW, on increase for possible release fall 2017. Carries novel proprietary <i>Axigen</i> herbicide tolerance traits for winter annual grassy weed control. Approximately 60% Byrd parentage and 40% Hatcher parentage.
CO14A065 Hard red winter (AF28/Byrd)//(AF10/2*Byrd)	CSU EXP	S	9	4	6	6	5	6	4	7	8	3	CSU experimental HRW, on increase for possible release fall 2017. Carries novel proprietary <i>Axigen</i> herbicide tolerance traits for winter annual grassy weed control. Approximately 60% Byrd parentage and 40% Hatcher parentage.
Cowboy Hard red winter CO980829/TAM 111	WY-CSU 2011	R*	7	6	8	3	7	7	6	7	4	5	CSU release (2011), marketed by Crop Research Foundation of Wyoming. Sister selection to Denali, but slightly shorter, lower straw strength, and 1 lb/bu lower test weight. Similar disease reaction and quality (except RWA biotype 1 resistant).
Denali Hard red winter CO980829/TAM 111	CSU 2011	S	8	7	5	5	7	7	3	2	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.
Hatcher Hard red winter Yuma/PI 372129//TAM-200/3/4*Yuma/4/KS91H184/Vista	CSU 2004	R*	6	4	7	5	5	7	6	5	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.

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), milling quality (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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Joe Hard white winter KS04HW101-3(98HW423/98HW170)/KS04HW119-3(TREGO*2/CO960293)	KSU 2015	S	7	7	7	3	1	2	3	4	4	5	KSU-Hays release (2015), marketed by the Kansas Wheat Alliance. First entered in CSU trials in 2015. Hard white wheat. Good leaf and stripe rust resistance, straw strength, test weight, and High Plains adaptation. Lower pre-harvest sprouting tolerance.
KanMark Hard red winter PRL/2*PASTOR//G980129W/3/KS970104-3-13	KSU 2014	S	6	1	2	1	6	2	9	3	4	2	KSU-Manhattan release (2014), marketed by the Kansas Wheat Alliance. First entered into CSU Variety Trials in 2014. Medium maturity, short semidwarf. Good leaf rust resistance, test weight, straw strength, and quality. Intermediate reaction to stripe rust. Very susceptible to mite-transmitted viruses.
Langin Hard red winter CO050270/Byrd	CSU 2016	S	3	3	8	4	3	5	6	3	5	1	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.
Larry Hard red winter KS940786-6-9EU/KS990011-1~21//KS990159-3~7	KSU 2016	S	5	6	2	5	2	7	8	2	3	6	KSU-Manhattan release (2016), marketed by the Kansas Wheat Alliance. First entered into CSU Variety Trials in 2017. Good stripe rust resistance, straw strength, and test weight. Very susceptible to mite-transmitted viruses.
LCS Chrome Hard red winter Not Disclosed	Limagrain 2016	S	5	4	2	5	2	2	7	3	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	8	6	5	4	7	5	3	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.
Loma Hard red winter Yellowstone//MTS0112/MTS0125	MT 2016	S	9	3	6	7	2	--	8	5	3	2	MT State release (2016), first entry in CSU trials in 2017. Late maturity, good stripe rust resistance. Carries solid stem trait conferring some resistance to wheat stem sawfly. Very susceptible to mite-transmitted viruses.
Oakley CL Hard red winter Above/Danby//KS03HW10	KSU 2013	S	6	5	8	9	1	5	2	4	4	3	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.
Ruth Hard red winter OK98697/Jagalene//Camelot	NE 2015	S	5	6	4	6	3	6	6	2	3	6	Nebraska release (2015), marketed by Husker Genetics. First entered in CSU Variety Trials in 2015. Medium height, medium maturity, medium length coleoptile. Good stripe rust resistance and good test weight.
Settler CL Hard red winter N95L164/3/MILLENNIUM SIB//TXGH125888-120*4/FS2	NE 2008	S	5	4	2	7	7	8	7	6	3	4	Nebraska release (2008), marketed by Husker Genetics. Single-gene Clearfield wheat. Later maturing, medium height. Moderately susceptible to stripe rust.

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Snowmass Hard white winter KS96HW94//Trego/CO960293	CSU 2009	S	5	7	8	4	6	6	3	4	6	2	CSU release (2009), marketed by PlainsGold in CWRP-Arden 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.
Sunshine Hard white winter KS01HW152-6/HV9W02-267W	CSU 2014	S	3	4	5	6	5	6	8	7	3	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.
SY Monument Hard red winter BC991149-11/00x0090-4	Syngenta 2014	S	8	6	5	5	2	2	8	5	4	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	3	3	6	5	2	6	8	3	3	4	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 Sunrise Hard red winter BC98337-10-53/CDC Falcon//NE03458	Syngenta 2015	S	6	2	2	3	2	4	8	2	3	7	Syngenta release (2015), first entered in 2015 CSU Irrigated Trials. Short semidwarf, 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	Syngenta 2010	S	7	5	3	5	3	2	6	6	4	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.
TAM 114 Hard red winter TAM 111/TX98A0050	TX 2014	S	4	6	5	5	2	4	6	2	3	1	Texas A&M release (2014), marketed by AGSECO. First entered in CSU trials in 2015. Good resistance to leaf, stripe, stem rust, and Hessian fly. Good test weight and quality characteristics.
Tatanka Hard red winter KS07HW81/T151	KSU 2016	S	5	5	6	7	2	6	6	3	4	4	KSU-Hays release (2016), marketed by Kansas Wheat Alliance. Medium maturity, medium height. Good resistance to stripe rust, moderate resistance to leaf rust. Good test weight.
Thunder CL Hard white winter KS01-5539/CO99W165	CSU 2008	R*	5	4	2	6	4	5	9	6	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.
WB-Grainfield Hard red winter G982231/G982159//KS920709W	Monsanto 2012	S	2	6	4	2	2	4	8	4	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.

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WB4303 Hard red winter PFAU/WEAVER/3/MASON/JGR//PECOS/4/FARMEC	Monsanto 2015	S	3	6	1	--	6	3	8	8	6	5	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.
WB4458 Hard red winter KS940786-7//G982163/G982002	Monsanto 2012	S	2	7	3	--	5	7	7	4	3	8	Monsanto release (2012), first entered in CSU Variety Trials in 2016. Medium height, medium-early. Good straw strength, winter hardiness, 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	5	7	7	5	7	3	8	5	5	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	6	2	2	3	2	7	1	2	6	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.
Winterhawk Hard red winter 474S10-1/X87807//HBK736-3	Monsanto 2007	S	5	6	5	8	4	7	6	2	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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