

2021 MONTANA OFF STATION WINTER WHEAT DATA

	Table Nos.	Pages
OFF-STATION NURSERIES (Exp. 38)		
2021 Off Station Summary	33	1
2021 Individual Locations (Turner, Loma, Creston, Denton, Geraldine, Belt, Judith Gap, Huntley Irrigated, Rapelje, Hysham, Molt, and Fort Smith)	34-45	2-13
2021 Statewide Summaries		
Yield	46	14
Test Weight	47	15
Plant Height	48	16
Protein	49	17
Sawfly Cutting	50	18
2018-2021 Multiyear Yield, Test Weight and Protein Summaries		
Turner, 2018-2021: 2y, 3y, 4y	51	19
Loma, 2018-2021: 2y, 3y, 4y	52	20
The Knees, 2018	53	21
Cut Bank, 2018-2019: 2y	54	22
Shelby/Devon, 2018-2019: 2y	55	23
Choteau area, 2018-2019: 2y	56	24
Denton, 2019-2021: 2y, 3y	57	25
Geraldine, 2018//2021: 2y, 3y	58	26
Belt, 2018//2021: 2y, 3y	59	27
Highwood, 2018-2019: 2y	60	28
Huntley Irrigated, 2018//2021: 2y, 3y	61	29
Rapelje, 2018-2021, 2y, 3y, 4y	62	30
Hysham, 2019//2021: 2y	63	31
Fly Creek (Hardin Area), 2018-2020: 2y, 3y	64	32
Molt, 2018//2021: 2y, 3y	65	33
Fort Smith, 2018//2021: 2y, 3y	66	34
Combined Locations, 2018-2021: 2y, 3y, 4y	67	35

Table 33. 2020 Off-Station Winter Wheat Tests: Summary

Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Sawfly cutting %	Protein %
+ = new for 2021						
	Locations	11	10	9	2	10
AAC Wildfire	Alberta: SECAN, 2015	41.8	57.3	25.4	53	14.5
Bobcat	Montana, 2019	44.3	58.3	24.3	8	14.3
Brawl CL Plus	Colorado Research Foundation, 2011	49.2	59.4	26.1	32	14.3
Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	48.6	57.4	26.1	43	13.8
Flathead	Montana, 2019	47.2	59.1	25.6	33	14.2
FourOsix	Montana, 2018	49.1	58.0	25.7	49	14.0
Judee	Montana, 2011	41.6	58.5	24.9	32	14.9
Keldin	Westbred, 2011	50.4	58.0	25.6	48	14.1
LCS Jet	Limagrain Cereal Seeds, 2015	48.0	56.2	22.9	24	14.0
Loma	Montana, 2016	48.5	58.0	24.3	35	14.6
MT1745	Decade*2/NI06732	46.7	58.3	24.7	39	13.7
+ MT1872	MT0859//MT0840/MT0873	42.3	57.6	24.9	24	13.9
MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*YLL	41.9	59.0	23.6	43	14.7
+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/StandClear CL	44.3	59.0	24.6	15	14.6
+ MTS18116	Loma*2/Warhorse	43.4	58.7	23.8	5	14.0
MTS18149	Loma*2/AAC Gateway	45.8	58.2	24.0	26	14.7
+ MTS1831	MTS0907/MTS0827	43.8	58.9	23.9	7	13.8
+ MTS1855	05X438-aC71(MT0097*2//Jagalene/Choteau)/f	43.7	58.9	24.2	24	14.7
Northern	Montana, 2015	46.0	58.1	25.0	33	14.6
Ray	Montana, 2018	45.0	57.3	28.4	47	13.9
StandClear CLP	Montana/Nutrien	45.3	59.0	25.4	29	14.0
SY Clearstone 2CL	Montana/Syngenta, 2012	44.3	58.2	27.0	42	14.4
SY Monument	Syngenta, 2015	46.9	56.9	25.5	40	13.6
Warhorse	Montana, 2013	44.4	57.8	25.8	9	14.6
Yellowstone	Montana 2005	46.5	57.9	25.9	51	14.1
Average		45.6	58.2	25.1	31.2	14.2
LSD (0.05)		4.2	0.7	1.2	29.4	0.4
C.V. (%)		11.0	1.1	5.5	45.0	3.4

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 34. 2021 Off-Station Winter Wheat Test (Exp. 3851): Turner (NARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Winter survival %	Stand % RCB	Plant height in LAT	Sawfly cutting % RCB	Falling number	Protein % LAT
+ = new for 2021			LAT	LAT	RCB	RCB	LAT	RCB		LAT
		lattice efficiency relative to RCB	129%	140%	97%	102%	108%	103%		152%
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	26.6	59.7	95	79	13.7	0		14.7
12	StandClear CLP	Montana/Nutrien	24.0	59.6	95	85	15.9	1		13.9
20	MTS18149	Loma*2/AAC Gateway	22.5	58.9	95	96	14.2	0		15.2
22	+ MTS18116	Loma*2/Warhorse	20.4	58.9	95	85	15.9	0		14.5
6	Loma	Montana, 2016	20.4	59.0	95	90	15.3	1		15.4
16	AAC Wildfire	Alberta: SECAN, 2015	20.1	56.7	95	91	15.7	27		15.2
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	19.1	60.3	95	79	12.6	0		15.7
10	Flathead	Montana, 2019	18.7	59.4	95	78	14.2	2		15.0
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	18.3	58.5	95	80	15.9	17		14.3
24	+ MT1872	MT0859/MT0840/MT0873	18.2	58.0	95	75	17.1	22		15.2
17	Ray	Montana, 2018	18.2	57.1	73	82	17.6	20		14.5
19	MT1745	Decade*2/NI06732	18.1	58.4	95	87	13.1	12		13.9
9	FourOsix	Montana, 2018	17.6	57.9	63	77	14.6	13		15.4
2	Yellowstone	Montana 2005	16.5	58.6	95	83	13.0	20		15.5
4	Brawl CL Plus	Colorado Research Foundation, 2011	16.3	60.7	57	69	15.0	4		15.3
21	+ MTS1831	MTS0907/MTS0827	16.1	57.0	95	85	15.7	0		14.8
11	Bobcat	Montana, 2019	15.8	55.0	95	86	15.2	1		16.3
3	Keldin	Westbred, 2011	15.7	57.6	37	66	14.5	20		14.9
7	Northern	Montana, 2015	15.7	57.2	95	88	15.0	8		15.8
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	15.7	59.1	95	89	13.3	7		16.4
5	Judee	Montana, 2011	15.2	58.1	95	88	16.1	2		17.1
8	SY Clearstone 2CL	Montana/Syngenta, 2012	14.3	59.3	95	87	16.5	20		16.4
13	SY Monument	Syngenta, 2015	14.2	57.4	48	78	13.5	5		14.2
1	Warhorse	Montana, 2013	14.1	57.0	95	74	15.4	1		16.3
14	LCS Jet	Limagrain Cereal Seeds, 2015	11.5	55.7	23	56	13.7	1		16.0
Average			17.7	58.2	84.3	81.3	14.9	8.1		15.3
LSD (0.05)			3.5	1.1	3.2	11.7	2.0	7.0		0.6
C.V. (%)			10.6	1.1	2.3	8.8	7.7	52.4		2.0
P-value (Varieties)			<.0001	<.0001	<.0001	<.0001	0.0006	<.0001		<.0001

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 35. 2021 Off-Station Winter Wheat Test (Exp. 3853): Loma (NARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Sawfly cutting %	Falling number	Protein %
	+ = new for 2021		LAT	LAT	LAT	LAT		LAT
		lattice efficiency relative to RCB	124%	131%	105%	143%		181%
4	Brawl CL Plus	Colorado Research Foundation, 201	36.3	55.2	24.7	61		14.7
11	Bobcat	Montana, 2019	31.8	54.3	21.7	16		14.8
19	MT1745	Decade*2/NI06732	30.5	51.9	22.5	65		14.8
6	Loma	Montana, 2016	30.5	53.0	21.1	68		15.1
9	FourOsix	Montana, 2018	29.9	51.9	25.2	84		14.9
10	Flathead	Montana, 2019	29.3	54.4	21.5	63		15.0
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	29.2	54.0	23.2	30		15.3
12	StandClear CLP	Montana/Nutrien	29.1	54.5	22.9	58		14.5
1	Warhorse	Montana, 2013	28.1	52.2	22.3	17		15.1
7	Northern	Montana, 2015	28.1	52.8	23.9	58		15.5
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 201	27.8	52.6	21.3	68		14.9
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	27.6	52.7	21.8	48		15.6
2	Yellowstone	Montana 2005	27.5	52.5	24.1	81		14.6
3	Keldin	Westbred, 2011	27.2	53.5	23.8	77		14.3
21	+ MTS1831	MTS0907/MTS0827	27.0	54.0	20.5	14		15.6
20	MTS18149	Loma*2/AAC Gateway	26.9	52.7	21.8	52		15.3
13	SY Monument	Syngenta, 2015	26.7	52.2	22.6	75		13.6
24	+ MT1872	MT0859//MT0840/MT0873	26.3	52.0	22.6	25		15.0
17	Ray	Montana, 2018	26.0	53.2	25.7	75		14.2
14	LCS Jet	Limagrain Cereal Seeds, 2015	25.3	50.9	20.7	47		14.5
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	24.9	53.8	21.1	79		15.1
8	SY Clearstone 2CL	Montana/Syngenta, 2012	24.3	53.9	24.4	65		15.0
5	Judee	Montana, 2011	23.6	54.7	21.4	61		15.7
22	+ MTS18116	Loma*2/Warhorse	23.2	53.9	20.6	10		15.4
16	AAC Wildfire	Alberta: SECAN, 2015	22.5	51.4	21.4	79		15.2
	Average		27.6	53.1	22.5	55.1		15.0
	LSD (0.05)		4.2	1.1	2.5	15.3		0.7
	C.V. (%)		8.6	2.0	6.4	15.4		2.5
	P-value (Varieties)		<.0001	<.0001	0.0019	<.0001		<.0001

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p=0.05)

**Table 36. 2021 Off-Station Winter Wheat Test (Exp. 3845): Creston (NWARC)
Adjacent to Kalispell Intrastate Test**

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Stand %	Heading date from Jan 1	Plant height in	Protein %
	+ = new for 2021		LAT	LAT	RCB	RCB	RCB	LAT
		lattice efficiency relative to RCB	146%	125%	99%	101%	102%	116%
14	LCS Jet	Limagrain Cereal Seeds, 2015	161.3	58.8	95	163.3	30.0	11.4
6	Loma	Montana, 2016	158.5	61.2	98	170.0	35.5	11.8
9	FourOsix	Montana, 2018	148.8	60.5	95	165.7	33.4	11.2
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	147.0	60.2	95	163.0	34.7	10.8
3	Keldin	Westbred, 2011	146.9	60.8	96	164.7	32.5	11.6
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	142.9	60.6	94	169.3	32.6	11.8
13	SY Monument	Syngenta, 2015	142.0	59.9	98	163.0	32.5	11.7
1	Warhorse	Montana, 2013	140.1	60.7	97	166.7	36.0	12.2
2	Yellowstone	Montana 2005	140.0	60.2	97	164.3	35.3	11.4
20	MTS18149	Loma*2/AAC Gateway	137.6	60.8	93	169.0	32.0	11.4
19	MT1745	Decade*2/NI06732	137.3	60.6	94	167.0	31.8	11.1
7	Northern	Montana, 2015	136.9	61.1	93	167.7	34.7	11.4
10	Flathead	Montana, 2019	136.4	61.0	97	159.0	30.3	11.6
8	SY Clearstone 2CL	Montana/Syngenta, 2012	136.3	59.8	96	165.0	35.6	11.3
17	Ray	Montana, 2018	133.6	56.8	96	165.7	39.0	11.7
24	+ MT1872	MT0859//MT0840/MT0873	129.5	59.1	97	166.3	32.7	11.9
22	+ MTS18116	Loma*2/Warhorse	129.5	60.8	95	169.0	30.2	11.1
16	AAC Wildfire	Alberta: SECAN, 2015	129.0	61.4	92	168.0	35.7	11.7
21	+ MTS1831	MTS0907/MTS0827	127.4	60.8	93	169.7	28.6	10.7
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	127.2	61.3	97	167.7	31.1	11.9
4	Brawl CL Plus	Colorado Research Foundation, 201	119.9	61.0	97	159.0	30.9	12.4
11	Bobcat	Montana, 2019	118.1	59.7	94	166.3	31.8	11.9
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	117.9	61.3	92	166.3	32.8	11.2
5	Judee	Montana, 2011	116.9	60.4	98	165.0	32.2	11.5
12	StandClear CLP	Montana/Nutrien	115.2	61.2	97	165.3	33.6	11.7
Average			135.0	60.4	95.6	165.8	33.0	11.5
LSD (0.05)			14.6	0.9	2.8	2.3	2.0	0.7
C.V. (%)			6.0	0.8	1.8	0.9	3.6	3.3
P-value (Varieties)			<.0001	<.0001	0.0003	<.0001	<.0001	0.0013

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 37. 2021 Off-Station Winter Wheat Test (Exp. 3871): Denton (CARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
+ = new for 2021			LAT	RCB	RCB	LAT
		lattice efficiency relative to RCB	112%	97%	90%	111%
9	FourOsix	Montana, 2018	29.7	56.8	22.7	16.4
20	MTS18149	Loma*2/AAC Gateway	29.6	56.8	20.7	17.4
12	StandClear CLP	Montana/Nutrien	28.9	58.2	20.3	15.8
11	Bobcat	Montana, 2019	28.6	57.5	22.3	16.7
4	Brawl CL Plus	Colorado Research Foundation, 201	28.3	58.2	22.0	16.2
22	+ MTS18116	Loma*2/Warhorse	27.1	57.8	23.3	15.8
6	Loma	Montana, 2016	26.5	56.0	20.3	17.2
2	Yellowstone	Montana 2005	25.3	56.9	23.3	15.4
5	Judee	Montana, 2011	25.2	57.8	23.3	16.7
10	Flathead	Montana, 2019	24.8	58.0	20.7	15.5
21	+ MTS1831	MTS0907/MTS0827	24.6	57.3	21.0	16.4
3	Keldin	Westbred, 2011	24.1	55.7	22.3	17.4
7	Northern	Montana, 2015	23.8	57.2	21.0	17.0
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	23.8	55.9	23.3	16.3
17	Ray	Montana, 2018	23.1	56.8	23.3	16.0
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	23.0	57.8	21.3	17.3
14	LCS Jet	Limagrain Cereal Seeds, 2015	22.5	54.5	17.7	16.6
13	SY Monument	Syngenta, 2015	21.4	54.4	20.3	16.4
1	Warhorse	Montana, 2013	20.8	55.7	23.3	16.8
19	MT1745	Decade*2/NI06732	20.6	57.7	20.0	15.9
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	20.5	58.2	20.3	16.5
8	SY Clearstone 2CL	Montana/Syngenta, 2012	20.1	57.6	24.3	16.5
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	19.9	57.1	21.0	17.3
16	AAC Wildfire	Alberta: SECAN, 2015	17.2	55.7	21.0	16.6
24	+ MT1872	MT0859//MT0840/MT0873	17.1	56.7	19.7	15.6
Average			23.9	56.9	21.6	16.5
LSD (0.05)			7.5	1.4	2.8	ns
C.V. (%)			17.9	1.5	7.8	5.3
P-value (Varieties)			0.0275	<.0001	0.0007	0.2620

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 38. 2021 Off-Station Winter Wheat Test (Exp. 3872): Geraldine (CARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
+ = new for 2021			LAT	LAT	RCB	LAT
		lattice efficiency relative to RCB	123%	109%	101%	274%
3	Keldin	Westbred, 2011	45.9	55.4	25.7	14.1
4	Brawl CL Plus	Colorado Research Foundation, 2011	45.8	56.5	28.3	14.1
8	SY Clearstone 2CL	Montana/Syngenta, 2012	40.2	53.8	27.3	14.5
13	SY Monument	Syngenta, 2015	40.2	54.0	28.0	13.5
9	FourOsix	Montana, 2018	38.3	54.5	25.0	14.3
11	Bobcat	Montana, 2019	38.1	55.5	24.3	14.4
20	MTS18149	Loma*2/AAC Gateway	37.5	55.4	23.3	15.2
12	StandClear CLP	Montana/Nutrien	37.1	55.3	26.0	14.7
7	Northern	Montana, 2015	36.9	55.2	25.3	15.5
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	35.9	53.4	25.7	14.6
17	Ray	Montana, 2018	35.8	54.3	31.0	14.4
1	Warhorse	Montana, 2013	35.7	54.0	26.3	15.0
25 +	MTCS20156	Bobcat/(Bobcat sib, MTS1589)/StandClear	35.7	56.2	24.7	14.8
19	MT1745	Decade*2/NI06732	35.6	53.9	26.0	14.5
10	Flathead	Montana, 2019	35.6	56.6	27.0	14.6
5	Judee	Montana, 2011	34.6	54.5	24.7	15.0
6	Loma	Montana, 2016	33.7	54.6	21.3	14.6
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	33.1	56.4	24.3	14.8
23 +	MTS1855	05X438-aC71(MT0097*2//Jagalene/C	33.0	54.5	24.7	15.9
2	Yellowstone	Montana 2005	32.6	54.2	26.3	14.8
21 +	MTS1831	MTS0907/MTS0827	31.3	56.0	26.0	14.5
22 +	MTS18116	Loma*2/Warhorse	29.7	55.7	25.0	15.1
14	LCS Jet	Limagrain Cereal Seeds, 2015	28.9	52.6	24.3	14.0
24 +	MT1872	MT0859//MT0840/MT0873	27.5	51.8	25.7	13.9
16	AAC Wildfire	Alberta: SECAN, 2015	23.5	53.2	24.0	15.0
Average			35.3	54.7	25.6	14.6
LSD (0.05)			7.6	1.7	2.4	0.7
C.V. (%)			12.0	1.7	5.8	2.8
P-value (Varieties)			0.0002	<.0001	0.0001	<.0001

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 39. 2021 Off-Station Winter Wheat Test (Exp. 3875): Belt (CARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
	+ = new for 2021		LAT	LAT	RCB	LAT
		lattice efficiency relative to RCB	120%	108%	98%	147%
4	Brawl CL Plus	Colorado Research Foundation, 2011	74.1	61.2	30.3	9.6
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	66.4	58.7	33.0	9.3
3	Keldin	Westbred, 2011	63.9	60.2	30.7	9.1
14	LCS Jet	Limagrain Cereal Seeds, 2015	61.0	56.8	26.7	9.6
7	Northern	Montana, 2015	60.1	60.4	27.7	10.5
19	MT1745	Decade*2/NI06732	59.6	59.2	31.0	9.8
2	Yellowstone	Montana 2005	59.3	59.2	32.0	9.7
13	SY Monument	Syngenta, 2015	58.7	58.5	29.7	9.1
23 +	MTS1855	05X438-aC71(MT0097*2//Jagalene/C	58.7	61.2	28.0	9.4
10	Flathead	Montana, 2019	57.4	60.4	31.0	10.3
9	FourOsix	Montana, 2018	56.5	59.2	30.0	9.4
11	Bobcat	Montana, 2019	56.2	60.4	28.3	9.5
8	SY Clearstone 2CL	Montana/Syngenta, 2012	55.9	59.7	31.0	10.1
6	Loma	Montana, 2016	55.8	60.1	28.7	9.1
16	AAC Wildfire	Alberta: SECAN, 2015	55.7	59.0	32.3	10.5
1	Warhorse	Montana, 2013	54.9	59.9	29.7	10.2
12	StandClear CLP	Montana/Nutrien	54.8	60.3	30.7	9.9
17	Ray	Montana, 2018	54.4	58.5	35.0	10.0
21 +	MTS1831	MTS0907/MTS0827	54.0	60.7	29.0	9.0
5	Judee	Montana, 2011	51.1	60.0	29.3	10.4
25 +	MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	50.9	60.0	29.3	10.3
24 +	MT1872	MT0859//MT0840/MT0873	50.8	58.4	26.3	9.7
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	50.0	60.2	27.7	10.8
20	MTS18149	Loma*2/AAC Gateway	49.3	60.2	29.0	10.1
22 +	MTS18116	Loma*2/Warhorse	48.8	60.4	28.3	9.6
	Average		56.7	59.7	29.8	9.8
	LSD (0.05)		6.2	0.8	3.6	0.7
	C.V. (%)		6.2	0.7	7.4	3.7
	P-value (Varieties)		<.0001	<.0001	0.0048	<.0001

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 40. 2021 Off-Station Winter Wheat Test (Exp. 3877): Judith Gap (CARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
+ = new for 2021			RCB	RCB	RCB	
lattice efficiency relative to RCB						
12	StandClear CLP	Montana/Nutrien	38.1	58.0	24.7	
14	LCS Jet	Limagrain Cereal Seeds, 2015	35.4	55.9	18.7	
4	Brawl CL Plus	Colorado Research Foundation, 2011	34.8	58.7	25.0	
20	MTS18149	Loma*2/AAC Gateway	34.3	58.8	23.0	
3	Keldin	Westbred, 2011	33.3	56.8	24.0	
13	SY Monument	Syngenta, 2015	31.7	55.5	21.0	
6	Loma	Montana, 2016	31.0	57.2	23.0	
19	MT1745	Decade*2/NI06732	29.3	55.9	22.0	
10	Flathead	Montana, 2019	29.1	57.3	23.7	
5	Judee	Montana, 2011	27.9	56.6	23.3	
7	Northern	Montana, 2015	27.9	56.9	22.3	
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	27.4	55.9	23.0	
11	Bobcat	Montana, 2019	26.4	56.3	21.3	
16	AAC Wildfire	Alberta: SECAN, 2015	25.5	54.6	24.3	
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	25.1	56.7	23.3	
1	Warhorse	Montana, 2013	25.0	55.3	25.0	
9	FourOsix	Montana, 2018	23.8	56.2	22.7	
21	+ MTS1831	MTS0907/MTS0827	23.2	55.5	21.0	
2	Yellowstone	Montana 2005	23.1	56.1	23.3	
24	+ MT1872	MT0859//MT0840/MT0873	21.8	54.7	23.7	
22	+ MTS18116	Loma*2/Warhorse	21.3	56.0	19.7	
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	19.8	56.9	20.0	
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	19.7	57.2	21.0	
8	SY Clearstone 2CL	Montana/Syngenta, 2012	16.4	56.3	26.3	
17	Ray^{1/}	Montana, 2018	-	-	-	
Average			27.1	56.5	22.7	
LSD (0.05)			10.0	1.4	2.9	
C.V. (%)			22.3	1.6	7.7	
P-value (Varieties)			0.0032	<.0001	0.0002	

bold = indicates highest value within a column

1/ heavy deer damage - no data

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 41. 2021 Off-Station Winter Wheat Test (Exp. 3880): Huntley Irrigated (SARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
	+ = new for 2021		LAT	RCB	LAT	LAT
		lattice efficiency relative to RCB	258%	102%	112%	131%
14	LCS Jet	Limagrain Cereal Seeds, 2015	120.5	62.1	28.5	12.3
3	Keldin	Westbred, 2011	118.8	62.2	31.7	13.3
9	FourOsix	Montana, 2018	118.6	63.5	30.7	12.7
17	Ray	Montana, 2018	118.2	61.6	26.3	12.0
19	MT1745	Decade*2/NI06732	115.8	63.1	31.6	12.8
2	Yellowstone	Montana 2005	115.3	61.6	29.6	12.9
7	Northern	Montana, 2015	112.0	61.6	30.2	13.7
8	SY Clearstone 2CL	Montana/Syngenta, 2012	111.5	62.1	30.1	12.8
21	+ MTS1831	MTS0907/MTS0827	110.8	63.4	29.7	12.3
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	110.4	62.8	29.9	12.3
10	Flathead	Montana, 2019	110.4	64.3	30.1	13.6
6	Loma	Montana, 2016	109.7	61.8	30.7	13.3
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	109.5	62.0	31.8	14.3
12	StandClear CLP	Montana/Nutrien	108.0	62.4	29.5	13.6
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	107.9	62.7	30.2	14.0
13	SY Monument	Syngenta, 2015	107.8	62.1	31.1	12.9
20	MTS18149	Loma*2/AAC Gateway	107.6	61.0	30.0	13.6
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	106.9	62.9	29.7	13.1
1	Warhorse	Montana, 2013	106.2	63.1	29.3	13.2
22	+ MTS18116	Loma*2/Warhorse	106.2	62.8	28.2	12.6
4	Brawl CL Plus	Colorado Research Foundation, 2011	105.6	63.7	28.3	14.1
24	+ MT1872	MT0859//MT0840/MT0873	105.4	63.2	31.3	12.4
11	Bobcat	Montana, 2019	104.5	61.5	29.6	13.7
16	AAC Wildfire	Alberta: SECAN, 2015	99.7	61.2	30.4	14.0
5	Judee	Montana, 2011	92.6	62.2	27.6	14.2
	Average		109.6	62.4	29.8	13.2
	LSD (0.05)		ns	ns	ns	1.0
	C.V. (%)		9.1	1.8	6.2	4.4
	P-value (Varieties)		0.4901	0.0756	0.2254	0.0002

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p = 0.05)

Table 42. 2021 Off-Station Winter Wheat Test (Exp. 3881): Rapelje (SARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
+ = new for 2021			LAT	LAT	LAT	LAT
		lattice efficiency relative to RCB	265%	111%	109%	125%
4	Brawl CL Plus	Colorado Research Foundation, 2011	30.0	58.6	24.0	16.9
13	SY Monument	Syngenta, 2015	27.7	55.3	23.8	16.5
10	Flathead	Montana, 2019	27.1	57.6	25.2	17.5
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	26.6	55.9	24.6	17.7
9	FourOsix	Montana, 2018	25.6	57.8	24.0	17.1
6	Loma	Montana, 2016	24.9	58.3	22.4	18.0
19	MT1745	Decade*2/NI06732	24.8	58.5	23.0	16.3
12	StandClear CLP	Montana/Nutrien	24.7	58.5	24.7	17.3
5	Judee	Montana, 2011	24.2	56.6	22.7	17.9
14	LCS Jet	Limagrain Cereal Seeds, 2015	23.5	55.8	20.7	16.1
2	Yellowstone	Montana 2005	23.2	58.2	23.4	17.1
11	Bobcat	Montana, 2019	23.2	58.9	21.9	16.8
24	+ MT1872	MT0859//MT0840/MT0873	23.0	57.3	23.4	17.0
3	Keldin	Westbred, 2011	22.7	57.4	22.5	16.6
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	22.6	59.3	22.4	17.2
22	+ MTS18116	Loma*2/Warhorse	21.3	56.1	20.8	17.2
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	20.5	57.6	21.0	18.2
8	SY Clearstone 2CL	Montana/Syngenta, 2012	20.1	56.5	25.7	16.8
21	+ MTS1831	MTS0907/MTS0827	20.1	57.6	21.7	16.5
1	Warhorse	Montana, 2013	19.9	57.1	23.1	17.4
16	AAC Wildfire	Alberta: SECAN, 2015	19.8	55.7	23.4	17.8
7	Northern	Montana, 2015	19.4	57.7	22.9	17.6
17	Ray	Montana, 2018	19.4	56.7	26.9	16.4
20	MTS18149	Loma*2/AAC Gateway	19.4	57.2	20.3	18.0
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	11.9	58.3	19.9	16.8
Average			22.6	57.4	23.0	17.1
LSD (0.05)			4.5	2.2	2.4	1.0
C.V. (%)			10.7	2.2	6.1	3.4
P-value (Varieties)			<.0001	0.0227	0.0001	0.0023

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p = 0.05)

**Table 43. 2021 Off-Station Winter Wheat Test (Exp. 3882): Fly Creek (Hardin Area, SARC)
Extreme drought and heat stress -surrounding wheat bailed for hay**

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
+ = new for 2021			LAT			
lattice efficiency relative to RCB			154%			
10	Flathead	Montana, 2019	7.2			
4	Brawl CL Plus	Colorado Research Foundation, 2011	6.1			
3	Keldin	Westbred, 2011	4.9			
12	StandClear CLP	Montana/Nutrien	4.9			
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	4.0			
13	SY Monument	Syngenta, 2015	3.8			
19	MT1745	Decade*2/NI06732	3.7			
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	3.1			
7	Northern	Montana, 2015	3.1			
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	2.9			
16	AAC Wildfire	Alberta: SECAN, 2015	2.8			
1	Warhorse	Montana, 2013	2.6			
6	Loma	Montana, 2016	2.5			
20	MTS18149	Loma*2/AAC Gateway	2.4			
22	+ MTS18116	Loma*2/Warhorse	2.3			
14	LCS Jet	Limagrain Cereal Seeds, 2015	2.2			
24	+ MT1872	MT0859//MT0840/MT0873	2.1			
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	1.7			
9	FourOsix	Montana, 2018	1.7			
17	Ray	Montana, 2018	1.5			
2	Yellowstone	Montana 2005	1.4			
8	SY Clearstone 2CL	Montana/Syngenta, 2012	1.1			
21	+ MTS1831	MTS0907/MTS0827	1.1			
11	Bobcat	Montana, 2019	1.0			
5	Judee	Montana, 2011	0.6			
Average			2.8			
LSD (0.05)			2.0			
C.V. (%)			39.8			
P-value (Varieties)			<.0001			

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p = 0.05)

Table 44. 2021 Off-Station Winter Wheat Test (Exp. 3885): Molt (SARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
	+ = new for 2021		RCB	RCB	RCB	LAT
		lattice efficiency relative to RCB				110%
3	Keldin	Westbred, 2011	42.1	61.4	24.8	12.5
5	Judee	Montana, 2011	41.6	62.8	24.3	13.6
9	FourOsix	Montana, 2018	40.8	62.9	24.8	13.1
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	40.7	59.8	26.0	12.8
4	Brawl CL Plus	Colorado Research Foundation, 2017	40.6	61.1	27.6	13.6
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	40.1	63.2	23.2	13.0
12	StandClear CLP	Montana/Nutrien	39.9	62.8	24.0	13.2
7	Northern	Montana, 2015	39.9	61.6	23.6	12.6
14	LCS Jet	Limagrains Cereal Seeds, 2015	39.6	60.0	23.4	13.3
22	+ MTS18116	Loma*2/Warhorse	39.6	63.2	21.8	13.0
21	+ MTS1831	MTS0907/MTS0827	39.4	64.1	21.7	12.8
16	AAC Wildfire	Alberta: SECAN, 2015	39.4	62.5	24.8	13.2
20	MTS18149	Loma*2/AAC Gateway	38.7	62.6	22.3	13.7
13	SY Monument	Syngenta, 2015	38.2	61.4	26.1	12.7
11	Bobcat	Montana, 2019	37.6	63.1	23.5	13.5
2	Yellowstone	Montana 2005	37.5	61.6	24.9	13.0
17	Ray	Montana, 2018	37.3	61.0	29.1	13.4
19	MT1745	Decade*2/NI06732	37.1	62.7	23.4	12.5
1	Warhorse	Montana, 2013	36.6	62.9	24.5	13.9
8	SY Clearstone 2CL	Montana/Syngenta, 2012	36.4	61.6	24.8	13.3
10	Flathead	Montana, 2019	36.4	62.3	25.7	13.3
6	Loma	Montana, 2016	36.4	62.2	23.1	14.0
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	33.8	62.9	24.0	13.9
24	+ MT1872	MT0859//MT0840/MT0873	33.1	62.9	23.6	13.1
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	31.5	62.6	22.4	14.3
	Average		38.2	62.2	24.3	13.3
	LSD (0.05)		4.6	1.9	2.0	0.6
	C.V. (%)		7.4	1.9	5.0	2.5
	P-value (Varieties)		0.0075	0.0026	<.0001	<.0001

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p = 0.05)

Table 45. 2021 Off-Station Winter Wheat Test (Exp. 3886): Fort Smith - Camp 4 (SARC)

Entry	Cultivar/Line	Origin/Pedigree	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
	+ = new for 2021		RCB	LAT	LAT	RCB
		lattice efficiency relative to RCB	87%	119%	111%	91%
3	Keldin	Westbred, 2011	42.5	55.4	27.4	16.7
4	Brawl CL Plus	Colorado Research Foundation, 2011	38.3	57.7	29.4	15.7
10	Flathead	Montana, 2019	36.2	56.6	29.9	15.6
13	SY Monument	Syngenta, 2015	35.6	54.2	27.7	15.5
6	Loma	Montana, 2016	34.9	54.2	24.5	17.1
15	Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	34.0	56.2	26.9	15.1
2	Yellowstone	Montana 2005	33.3	55.9	27.4	16.4
11	Bobcat	Montana, 2019	32.5	57.4	24.6	15.8
5	Judee	Montana, 2011	32.4	58.0	27.0	16.7
9	FourOsix	Montana, 2018	32.3	55.1	26.3	15.8
24	+ MT1872	MT0859//MT0840/MT0873	32.2	56.5	26.6	14.7
12	StandClear CLP	Montana/Nutrien	32.1	57.1	26.4	15.3
20	MTS18149	Loma*2/AAC Gateway	32.0	55.9	26.4	16.8
14	LCS Jet	Limagrain Cereal Seeds, 2015	31.7	54.7	22.9	16.1
19	MT1745	Decade*2/NI06732	30.7	57.4	24.7	15.5
21	+ MTS1831	MTS0907/MTS0827	30.2	57.7	24.7	15.3
7	Northern	Montana, 2015	29.9	56.5	25.8	16.4
16	AAC Wildfire	Alberta: SECAN, 2015	29.8	56.6	25.7	16.0
23	+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	29.8	57.4	26.0	16.5
1	Warhorse	Montana, 2013	29.1	55.7	27.7	16.3
25	+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	29.1	57.0	25.0	16.3
22	+ MTS18116	Loma*2/Warhorse	28.8	57.2	23.6	16.1
17	Ray	Montana, 2018	27.6	57.1	30.1	15.9
8	SY Clearstone 2CL	Montana/Syngenta, 2012	27.5	58.1	30.1	16.9
18	MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	21.6	57.9	24.2	16.9
	Average		31.8	56.6	26.4	16.1
	LSD (0.05)		5.4	1.0	2.2	0.9
	C.V. (%)		10.3	1.0	4.6	3.4
	P-value (Varieties)		<.0001	<.0001	<.0001	<.0001

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p = 0.05)

Table 46. 2021 Off-Station Winter Wheat Test (Exp. 38): Multi-Location Yield (bu/a)

Cultivar/Line + = new for 2021	Turner NARC LAT	Loma NARC LAT	Creston NWARC LAT	Denton CARC LAT	Geraldine CARC LAT	Belt CARC LAT	Judith Gap CARC RCB	Huntley SARC LAT	Rapelje SARC LAT	Hysham SARC LAT	Molt SARC RCB	Ft Smith SARC RCB	11 Loc. Average	12 Loc. Average (no Ray)
	129%	124%	146%	112%	123%	120%		258%	265%	154%				
Keldin	15.7	27.2	146.9	24.1	45.9	63.9	33.3	118.8	22.7	4.9	42.1	42.5	50.4	49.0
Brawl CL Plus	16.3	36.3	119.9	28.3	45.8	74.1	34.8	105.6	30.0	6.1	40.6	38.3	49.2	48.0
FourOsix	17.6	29.9	148.8	29.7	38.3	56.5	23.8	118.6	25.6	1.7	40.8	32.3	49.1	47.0
Byrd CL Plus	18.3	27.8	147.0	23.8	35.9	66.4	27.4	110.4	26.6	4.0	40.7	34.0	48.6	46.9
Loma	20.4	30.5	158.5	26.5	33.7	55.8	31.0	109.7	24.9	2.5	36.4	34.9	48.5	47.1
LCS Jet	11.5	25.3	161.3	22.5	28.9	61.0	35.4	120.5	23.5	2.2	39.6	31.7	48.0	47.0
Flathead	18.7	29.3	136.4	24.8	35.6	57.4	29.1	110.4	27.1	7.2	36.4	36.2	47.2	45.7
SY Monument	14.2	26.7	142.0	21.4	40.2	58.7	31.7	107.8	27.7	3.8	38.2	35.6	46.9	45.7
MT1745	18.1	30.5	137.3	20.6	35.6	59.6	29.3	115.8	24.8	3.7	37.1	30.7	46.7	45.3
Yellowstone	16.5	27.5	140.0	25.3	32.6	59.3	23.1	115.3	23.2	1.4	37.5	33.3	46.5	44.6
Northern	15.7	28.1	136.9	23.8	36.9	60.1	27.9	112.0	19.4	3.1	39.9	29.9	46.0	44.5
MTS18149	22.5	26.9	137.6	29.6	37.5	49.3	34.3	107.6	19.4	2.4	38.7	32.0	45.8	44.8
StandClear CLP	24.0	29.1	115.2	28.9	37.1	54.8	38.1	108.0	24.7	4.9	39.9	32.1	45.3	44.7
Ray	18.2	26.0	133.6	23.1	35.8	54.4	1/	118.2	19.4	1.5	37.3	27.6	45.0	-
Warhorse	14.1	28.1	140.1	20.8	35.7	54.9	25.0	106.2	19.9	2.6	36.6	29.1	44.4	42.8
Bobcat	15.8	31.8	118.1	28.6	38.1	56.2	26.4	104.5	23.2	1.0	37.6	32.5	44.3	42.8
+ MTCS20156	26.6	29.2	127.2	19.9	35.7	50.9	25.1	109.5	22.6	2.9	33.8	29.1	44.3	42.7
SY Clearstone 2Cl	14.3	24.3	136.3	20.1	40.2	55.9	16.4	111.5	20.1	1.1	36.4	27.5	44.3	42.0
+ MTS1831	16.1	27.0	127.4	24.6	31.3	54.0	23.2	110.8	20.1	1.1	39.4	30.2	43.8	42.1
+ MTS1855	19.1	27.6	117.9	23.0	33.0	58.7	19.7	107.9	20.5	3.1	40.1	29.8	43.7	41.7
+ MTS18116	20.4	23.2	129.5	27.1	29.7	48.8	21.3	106.2	21.3	2.3	39.6	28.8	43.4	41.5
+ MT1872	18.2	26.3	129.5	17.1	27.5	50.8	21.8	105.4	23.0	2.1	33.1	32.2	42.3	40.6
MTCL1737	15.7	24.9	142.9	20.5	33.1	50.0	19.8	106.9	11.9	1.7	31.5	21.6	41.9	40.0
AAC Wildfire	20.1	22.5	129.0	17.2	23.5	55.7	25.5	99.7	19.8	2.8	39.4	29.8	41.8	40.4
Judee	15.2	23.6	116.9	25.2	34.6	51.1	27.9	92.6	24.2	0.6	41.6	32.4	41.6	40.5
Average	17.7	27.6	135.0	23.9	35.3	56.7	27.1	109.6	22.6	2.8	38.2	31.8	45.6	44.1
LSD (0.05)	3.5	4.2	14.6	7.5	7.6	6.2	10.0	ns	4.5	2.0	4.6	5.4	4.2	4.0
C.V. (%)	10.6	8.6	6.0	17.9	12.0	6.2	22.3	9.1	10.7	39.8	7.4	10.3	11.0	11.4

bold = indicates highest value within a column

1/ heavy deer damage - no data

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p=0.05)

Table 47. 2021 Off-Station Winter Wheat Test (Exp. 38): Multi-Location Test Weight (lb/bu)

Cultivar/Line + = new for 2021	Turner	Loma	Creston	Denton	Geraldine	Belt	Judith Gap	Huntley	Rapelje	Hysham	Molt	Ft Smith	10 Loc.	11 Loc.
	NARC LAT	NARC LAT	NWARC LAT	CARC RCB	CARC LAT	CARC LAT	CARC RCB	SARC RCB	SARC LAT	SARC extreme	SARC RCB	SARC LAT	Average	Average (no Ray)
	140%	131%	125%	97%	109%	108%		102%	111%	drought		119%		
Brawl CL Plus	60.7	55.2	61.0	58.2	56.5	61.2	58.7	63.7	58.6		61.1	57.7	59.4	59.3
Flathead	59.4	54.4	61.0	58.0	56.6	60.4	57.3	64.3	57.6		62.3	56.6	59.1	58.9
MTCL1737	59.1	53.8	60.6	58.2	56.4	60.2	56.9	62.9	58.3		62.6	57.9	59.0	58.8
+ MTCS20156	59.7	54.0	61.3	57.1	56.2	60.0	56.7	62.0	59.3		62.9	57.0	59.0	58.7
StandClear CLP	59.6	54.5	61.2	58.2	55.3	60.3	58.0	62.4	58.5		62.8	57.1	59.0	58.9
+ MTS1831	57.0	54.0	60.8	57.3	56.0	60.7	55.5	63.4	57.6		64.1	57.7	58.9	58.6
+ MTS1855	60.3	52.7	61.3	57.8	54.5	61.2	57.2	62.7	57.6		63.2	57.4	58.9	58.7
+ MTS18116	58.9	53.9	60.8	57.8	55.7	60.4	56.0	62.8	56.1		63.2	57.2	58.7	58.4
Judee	58.1	54.7	60.4	57.8	54.5	60.0	56.6	62.2	56.6		62.8	58.0	58.5	58.3
Bobcat	55.0	54.3	59.7	57.5	55.5	60.4	56.3	61.5	58.9		63.1	57.4	58.3	58.1
MT1745	58.4	51.9	60.6	57.7	53.9	59.2	55.9	63.1	58.5		62.7	57.4	58.3	58.1
MTS18149	58.9	52.7	60.8	56.8	55.4	60.2	58.8	61.0	57.2		62.6	55.9	58.2	58.2
SY Clearstone 2CL	59.3	53.9	59.8	57.6	53.8	59.7	56.3	62.1	56.5		61.6	58.1	58.2	58.1
Northern	57.2	52.8	61.1	57.2	55.2	60.4	56.9	61.6	57.7		61.6	56.5	58.1	58.0
FourOsix	57.9	51.9	60.5	56.8	54.5	59.2	56.2	63.5	57.8		62.9	55.1	58.0	57.8
Keldin	57.6	53.5	60.8	55.7	55.4	60.2	56.8	62.2	57.4		61.4	55.4	58.0	57.9
Loma	59.0	53.0	61.2	56.0	54.6	60.1	57.2	61.8	58.3		62.2	54.2	58.0	58.0
Yellowstone	58.6	52.5	60.2	56.9	54.2	59.2	56.1	61.6	58.2		61.6	55.9	57.9	57.7
Warhorse	57.0	52.2	60.7	55.7	54.0	59.9	55.3	63.1	57.1		62.9	55.7	57.8	57.6
+ MT1872	58.0	52.0	59.1	56.7	51.8	58.4	54.7	63.2	57.3		62.9	56.5	57.6	57.3
Byrd CL Plus	58.5	52.6	60.2	55.9	53.4	58.7	55.9	62.8	55.9		59.8	56.2	57.4	57.3
AAC Wildfire	56.7	51.4	61.4	55.7	53.2	59.0	54.6	61.2	55.7		62.5	56.6	57.3	57.1
Ray	57.1	53.2	56.8	56.8	54.3	58.5	-	61.6	56.7		61.0	57.1	57.3	-
SY Monument	57.4	52.2	59.9	54.4	54.0	58.5	55.5	62.1	55.3		61.4	54.2	56.9	56.8
LCS Jet	55.7	50.9	58.8	54.5	52.6	56.8	55.9	62.1	55.8		60.0	54.7	56.2	56.2
Average	58.2	53.1	60.4	56.9	54.7	59.7	56.5	62.4	57.4		62.2	56.6	58.2	58.0
LSD (0.05)	1.1	1.1	0.9	1.4	1.7	0.8	1.4	ns	2.2		1.9	1.0	0.7	0.7
C.V. (%)	1.1	2.0	0.8	1.5	1.7	0.7	1.6	1.8	2.2		1.9	1.0	105.0	1.4

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 48. 2021 Off-Station Winter Wheat Test (Exp. 38): Multi-Location Plant height (in)

Cultivar/Line + = new for 2021	Turner	Loma	Creston	Denton	Geraldine	Belt	Judith Gap	Huntley	Rapelje	Hysham	Molt	Ft Smith	9 Loc.	10 Loc.
	NARC LAT	NARC LAT	NWARC RCB	CARC RCB	CARC RCB	CARC RCB	CARC RCB	SARC SARC	SARC LAT	SARC SARC extreme	SARC RCB	SARC LAT	Average	Average (no Ray)
	108%	105%				98%			109%	drought		111%		
LCS Jet	13.7	20.7	30.0	17.7	24.3	26.7	18.7		20.7		23.4	22.9	22.9	22.5
MTCL1737	13.3	21.1	32.6	20.3	24.3	27.7	20.0		19.9		22.4	24.2	23.6	23.2
+ MTS18116	15.9	20.6	30.2	23.3	25.0	28.3	19.7		20.8		21.8	23.6	23.8	23.4
+ MTS1831	15.7	20.5	28.6	21.0	26.0	29.0	21.0		21.7		21.7	24.7	23.9	23.6
MTS18149	14.2	21.8	32.0	20.7	23.3	29.0	23.0		20.3		22.3	26.4	24.0	23.9
+ MTS1855	12.6	21.8	32.8	21.3	24.7	28.0	21.0		21.0		23.2	26.0	24.2	23.9
Bobcat	15.2	21.7	31.8	22.3	24.3	28.3	21.3		21.9		23.5	24.6	24.3	24.0
Loma	15.3	21.1	35.5	20.3	21.3	28.7	23.0		22.4		23.1	24.5	24.3	24.2
+ MTCS20156	13.7	23.2	31.1	21.0	24.7	29.3	23.3		22.4		24.0	25.0	24.6	24.5
MT1745	13.1	22.5	31.8	20.0	26.0	31.0	22.0		23.0		23.4	24.7	24.7	24.5
Judee	16.1	21.4	32.2	23.3	24.7	29.3	23.3		22.7		24.3	27.0	24.9	24.7
+ MT1872	17.1	22.6	32.7	19.7	25.7	26.3	23.7		23.4		23.6	26.6	24.9	24.8
Northern	15.0	23.9	34.7	21.0	25.3	27.7	22.3		22.9		23.6	25.8	25.0	24.8
AAC Wildfire	15.7	21.4	35.7	21.0	24.0	32.3	24.3		23.4		24.8	25.7	25.4	25.3
StandClear CLP	15.9	22.9	33.6	20.3	26.0	30.7	24.7		24.7		24.0	26.4	25.4	25.3
SY Monument	13.5	22.6	32.5	20.3	28.0	29.7	21.0		23.8		26.1	27.7	25.5	25.1
Flathead	14.2	21.5	30.3	20.7	27.0	31.0	23.7		25.2		25.7	29.9	25.6	25.4
Keldin	14.5	23.8	32.5	22.3	25.7	30.7	24.0		22.5		24.8	27.4	25.6	25.4
FourOsix	14.6	25.2	33.4	22.7	25.0	30.0	22.7		24.0		24.8	26.3	25.7	25.4
Warhorse	15.4	22.3	36.0	23.3	26.3	29.7	25.0		23.1		24.5	27.7	25.8	25.7
Yellowstone	13.0	24.1	35.3	23.3	26.3	32.0	23.3		23.4		24.9	27.4	25.9	25.7
Brawl CL Plus	15.0	24.7	30.9	22.0	28.3	30.3	25.0		24.0		27.6	29.4	26.1	26.0
Byrd CL Plus	15.9	21.3	34.7	23.3	25.7	33.0	23.0		24.6		26.0	26.9	26.1	25.8
SY Clearstone 2CL	16.5	24.4	35.6	24.3	27.3	31.0	26.3		25.7		24.8	30.1	27.0	26.9
Ray	17.6	25.7	39.0	23.3	31.0	35.0	-		26.9		29.1	30.1	28.4	-
Average	14.9	22.5	33.0	21.6	25.6	29.8	22.7		23.0		24.3	26.4	25.1	24.7
LSD (0.05)	2.0	2.5	2.0	2.8	2.4	3.6	2.9		2.4		2.0	2.2	1.2	1.1
C.V. (%)	7.7	6.4	3.6	7.8	5.8	7.4	7.7		6.1		5.0	4.6	5.5	5.1

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 49. 2021 Off-Station Winter Wheat Test (Exp. 38): Multi-Location Protein (%)

Cultivar/Line	Turner	Loma	Creston	Denton	Geraldine	Belt	Judith Gap	Huntley	Rapelje	Hysham	Molt	Ft Smith	10 Loc. Average
	NARC LAT	NARC LAT	NWARC LAT	CARC LAT	CARC LAT	CARC LAT	CARC	SARC LAT	SARC LAT	SARC extreme	SARC LAT	SARC RCB	
+ = new for 2021										no data			
Judee	152%	181%	116%	111%	274%	147%		131%	125%	drought	110%	91%	
MTCL1737	17.1	15.7	11.5	16.7	15.0	10.4		14.2	17.9		13.6	16.7	14.9
MTS18149	16.4	15.1	11.8	16.5	14.8	10.8		13.1	16.8		14.3	16.9	14.7
+ MTS1855	15.2	15.3	11.4	17.4	15.2	10.1		13.6	18.0		13.7	16.8	14.7
Loma	15.7	15.6	11.2	17.3	15.9	9.4		14.0	18.2		13.0	16.5	14.7
+ MTCS20156	15.4	15.1	11.8	17.2	14.6	9.1		13.3	18.0		14.0	17.1	14.6
Northern	14.7	15.3	11.9	17.3	14.8	10.3		14.3	17.2		13.9	16.3	14.6
Warhorse	15.8	15.5	11.4	17.0	15.5	10.5		13.7	17.6		12.6	16.4	14.6
AAC Wildfire	16.3	15.1	12.2	16.8	15.0	10.2		13.2	17.4		13.9	16.3	14.6
SY Clearstone 2CL	15.2	15.2	11.7	16.6	15.0	10.5		14.0	17.8		13.2	16.0	14.5
Bobcat	16.4	15.0	11.3	16.5	14.5	10.1		12.8	16.8		13.3	16.9	14.4
Brawl CL Plus	16.3	14.8	11.9	16.7	14.4	9.5		13.7	16.8		13.5	15.8	14.3
Flathead	15.3	14.7	12.4	16.2	14.1	9.6		14.1	16.9		13.6	15.7	14.3
Keldin	15.0	15.0	11.6	15.5	14.6	10.3		13.6	17.5		13.3	15.6	14.2
Yellowstone	14.9	14.3	11.6	17.4	14.1	9.1		13.3	16.6		12.5	16.7	14.1
FourOsix	15.5	14.6	11.4	15.4	14.8	9.7		12.9	17.1		13.0	16.4	14.1
LCS Jet	15.4	14.9	11.2	16.4	14.3	9.4		12.7	17.1		13.1	15.8	14.0
+ MTS18116	16.0	14.5	11.4	16.6	14.0	9.6		12.3	16.1		13.3	16.1	14.0
StandClear CLP	14.5	15.4	11.1	15.8	15.1	9.6		12.6	17.2		13.0	16.1	14.0
+ MT1872	13.9	14.5	11.7	15.8	14.7	9.9		13.6	17.3		13.2	15.3	14.0
Ray	15.2	15.0	11.9	15.6	13.9	9.7		12.4	17.0		13.1	14.7	13.9
Byrd CL Plus	14.5	14.2	11.7	16.0	14.4	10.0		12.0	16.4		13.4	15.9	13.9
+ MTS1831	14.3	14.9	10.8	16.3	14.6	9.3		12.3	17.7		12.8	15.1	13.8
MT1745	14.8	15.6	10.7	16.4	14.5	9.0		12.3	16.5		12.8	15.3	13.8
SY Monument	13.9	14.8	11.1	15.9	14.5	9.8		12.8	16.3		12.5	15.5	13.7
Average	14.2	13.6	11.7	16.4	13.5	9.1		12.9	16.5		12.7	15.5	13.6
LSD (0.05)	15.3	15.0	11.5	16.5	14.6	9.8		13.2	17.1		13.3	16.1	14.2
C.V. (%)	0.6	0.7	0.7	ns	0.7	0.7		1.0	1.0		0.6	0.9	0.4
	2.0	2.5	3.3	5.3	2.8	3.7		4.4	3.4		2.5	3.4	3.4

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 50. 2021 Off-Station Winter Wheat Test (Exp. 38): Multi-Location Sawfly Cutting (%)

Cultivar/Line	Origin/Pedigree	NARC		2 Loc Average
		Turner	Loma	
+ = new for 2021		RCB	LAT	
	lattice efficiency relative to RCB	103%	143%	
+ MTS18116	Loma*2/Warhorse	0	10	5
+ MTS1831	MTS0907/MTS0827	0	14	7
Bobcat	Montana, 2019	1	16	8
Warhorse	Montana, 2013	1	17	9
+ MTCS20156	Bobcat//(Bobcat sib, MTS1589)/Stan	0	30	15
+ MT1872	MT0859//MT0840/MT0873	22	25	24
LCS Jet	Limagrain Cereal Seeds, 2015	1	47	24
+ MTS1855	05X438-aC71(MT0097*2//Jagalene/C	0	48	24
MTS18149	Loma*2/AAC Gateway	0	52	26
StandClear CLP	Montana/Nutrien	1	58	29
Judee	Montana, 2011	2	61	32
Brawl CL Plus	Colorado Research Foundation, 2011	4	61	32
Flathead	Montana, 2019	2	63	33
Northern	Montana, 2015	8	58	33
Loma	Montana, 2016	1	68	35
MT1745	Decade*2/NI06732	12	65	39
SY Monument	Syngenta, 2015	5	75	40
SY Clearstone 2CL	Montana/Syngenta, 2012	20	65	42
Byrd CL Plus	Plainsgold/Col. Wheat Res Fdn, 2018	17	68	43
MTCL1737	YLL-2CL/3/YLL*2/Pelsart//PROM/3*Y	7	79	43
Ray	Montana, 2018	20	75	47
Keldin	Westbred, 2011	20	77	48
FourOsix	Montana, 2018	13	84	49
Yellowstone	Montana 2005	20	81	51
AAC Wildfire	Alberta: SECAN, 2015	27	79	53
Average		8.1	55.1	31.2
LSD (0.05)		7.0	15.3	29.4
C.V. (%)		52.4	15.4	45.0

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's Protected LSD (p =0.05)

Table 51. 2018-2021 Off-Station Winter Wheat Test (Exp. 3851): Turner (NARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)				Protein (%)			
	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21
	1y	2y	3y	4y	1y	2y	3y	4y	1y	2y	3y	4y
AAC Wildfire	20.1	39.9	46.0		56.7	58.1	58.1		15.2	14.5	14.2	
Bobcat	15.8	35.8	48.3	44.9	55.0	57.8	58.4	59.3	16.3	15.2	14.7	14.9
Brawl CL Plus	16.3	25.1	32.3	29.7	60.7	61.3	60.8	61.3	15.3	14.9	15.0	15.3
Byrd CL Plus	18.3	37.1	43.5		58.5	59.8	59.8		14.3	13.6	13.4	
Flathead	18.7	31.1	38.1	35.6	59.4	60.2	59.9	60.3	15.0	14.7	14.7	15.0
FourOsix	17.6	34.3	43.4	41.2	57.9	59.0	58.9	59.6	15.4	14.7	14.5	14.8
Judee	15.2	36.2	43.8	40.7	58.1	59.6	59.8	60.5	17.1	15.9	15.5	15.8
Keldin	15.7	36.0	45.3	42.3	57.6	58.8	59.1	59.8	14.9	14.5	14.3	14.5
LCS Jet	11.5	28.3	37.3	36.2	55.7	56.9	56.7	57.3	16.0	14.9	14.5	14.5
Loma	20.4	39.2	49.8	46.2	59.0	59.7	59.4	60.0	15.4	14.9	14.8	15.1
MT1745	18.1	36.7			58.4	59.8			13.9	13.5		
+ MT1872	18.2				58.0				15.2			
MTCL1737	15.7	35.2			59.1	59.3			16.4	15.3		
+ MTCS20156	26.6				59.7				14.7			
+ MTS18116	20.4				58.9				14.5			
MTS18149	22.5	44.7			58.9	59.7			15.2	14.6		
+ MTS1831	16.1				57.0				14.8			
+ MTS1855	19.1				60.3				15.7			
Northern	15.7	36.3	46.0	44.1	57.2	58.7	59.0	59.7	15.8	15.0	14.7	15.0
Ray	18.2	35.0	43.9	41.7	57.1	57.8	57.7	58.3	14.5	14.2	14.0	14.3
StandClear CLP	24.0	41.0	45.9	43.3	59.6	60.8	60.6	61.0	13.9	13.8	13.8	14.3
SY Clearstone 2CL	14.3	34.4	43.5	40.9	59.3	59.7	59.5	59.9	16.4	15.3	15.0	15.2
SY Monument	14.2	33.1	40.4	37.1	57.4	58.7	58.7	59.4	14.2	13.6	13.5	13.9
Warhorse	14.1	31.9	38.6	36.8	57.0	58.6	58.6	59.1	16.3	15.4	15.1	15.2
Yellowstone	16.5	33.9	47.5	44.6	58.6	59.5	59.4	59.9	15.5	14.8	14.5	14.7
Average	17.7	35.2	43.2	40.3	58.2	59.2	59.1	59.7	15.3	14.6	14.5	14.8
LSD (0.05)	3.5	ns	8.3	6.2	1.1	1.7	1.2	1.0	0.6	0.9	0.7	0.6
C.V. (%)	10.6	12.2	11.6	10.8	1.1	1.3	1.2	1.2	2.0	3.1	3.0	2.9

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 52. 2018-2021 Off-Station Winter Wheat Test (Exp. 3853): Loma (NARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)				Protein (%)			
	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21
	1y	2y	3y	4y	1y	2y	3y	4y	1y	2y	3y	4y
AAC Wildfire	22.5	39.4	46.3		51.4	55.0	56.6		15.2	14.6	14.0	
Bobcat	31.8	45.5	55.0	57.9	54.3	57.4	58.8	59.4	14.8	14.2	13.4	13.4
Brawl CL Plus	36.3	49.2	53.1	55.2	55.2	58.4	59.4	60.1	14.7	13.9	13.7	14.0
Byrd CL Plus	27.8	45.3	50.3		52.6	55.8	57.7		14.9	14.0	13.2	
Flathead	29.3	45.2	48.3	49.9	54.4	57.1	58.3	59.1	15.0	14.3	13.9	13.9
FourOsix	29.9	43.2	49.2	51.8	51.9	55.8	57.3	57.9	14.9	14.4	13.6	13.7
Judee	23.6	39.7	47.1	49.6	54.7	57.3	59.0	59.3	15.7	15.0	14.0	14.0
Keldin	27.2	42.8	49.7	53.0	53.5	56.5	57.9	58.5	14.3	13.9	13.4	13.5
LCS Jet	25.3	36.1	43.5	45.5	50.9	54.1	55.3	55.7	14.5	13.8	13.1	13.3
Loma	30.5	46.1	50.7	52.5	53.0	56.4	57.8	58.0	15.1	14.5	14.1	14.2
MT1745	30.5	47.4			51.9	56.2			14.8	13.8		
+ MT1872	26.3				52.0				15.0			
MTCL1737	24.9	46.0			53.8	56.8			15.1	14.4		
+ MTCS20156	29.2				54.0				15.3			
+ MTS18116	23.2				53.9				15.4			
MTS18149	26.9	42.1			52.7	56.3			15.3	14.8		
+ MTS1831	27.0				54.0				15.6			
+ MTS1855	27.6				52.7				15.6			
Northern	28.1	48.0	52.2	55.0	52.8	56.4	57.7	58.3	15.5	14.7	14.2	14.2
Ray	26.0	42.4	48.8	51.4	53.2	56.2	57.3	57.4	14.2	13.9	13.2	13.6
StandClear CLP	29.1	42.6	45.2	47.6	54.5	57.9	58.9	59.4	14.5	14.1	13.7	13.8
SY Clearstone 2CL	24.3	45.3	48.6	51.5	53.9	56.6	57.5	57.8	15.0	14.4	13.7	13.9
SY Monument	26.7	43.1	53.4	55.9	52.2	55.6	57.2	58.0	13.6	13.0	12.6	12.7
Warhorse	28.1	40.3	41.7	42.1	52.2	56.0	57.8	58.2	15.1	14.5	14.4	14.4
Yellowstone	27.5	43.6	46.8	49.8	52.5	56.2	57.2	57.6	14.6	14.1	13.8	13.9
Average	27.6	43.6	48.8	51.2	53.1	56.4	57.8	58.3	15.0	14.2	13.6	13.8
LSD (0.05)	4.2	ns	ns	6.4	1.1	1.3	1.1	0.9	0.7	0.5	0.7	0.6
C.V. (%)	8.6	8.8	10.3	8.8	2.0	1.1	1.1	1.1	2.5	1.7	3.2	3.2

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 53. 2018 Off-Station Winter Wheat Test (Exp. 3865): The Knees (WTARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)		Protein (%)
	2018				2018		2018
	1y				1y		1y
AAC Wildfire	2021, plots not planted	2020, plots not planted	2019, plots sprayed out	62.9	57.0	13.5	
Bobcat				60.5			14.1
Brawl CL Plus				60.1			
Byrd CL Plus							
Flathead				61.7	57.0	13.2	
FourOsix				54.0	55.5	13.6	
Judee				62.3	56.8	14.3	
Keldin				60.2	57.7	14.3	
LCS Jet				54.2	53.6	13.4	
Loma				67.7	58.2	13.7	
MT1745							
+ MT1872							
MTCL1737							
+ MTCS20156							
+ MTS18116							
MTS18149							
+ MTS1831							
+ MTS1855							
Northern				59.1	56.3	13.9	
Ray				62.3	54.3	13.3	
StandClear CLP				64.3	58.5	13.5	
SY Clearstone 2CL				55.9	55.1	13.4	
SY Monument				56.3	55.8	12.8	
Warhorse				60.1	57.4	14.3	
Yellowstone				56.5	55.1	13.7	
Average				58.1	56.6	13.7	
LSD (0.05)				7.9	1.8	0.5	
C.V. (%)				7.5	1.8	1.9	

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 54. 2018-2019 Off-Station Winter Wheat Test (Exp. 3864): Cut Bank (WTARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)				Protein (%)			
			2019	2018-19			2019	2018-19			2019	2018-19
			1y	2y			1y	2y			1y	2y
AAC Wildfire	2021, plots not planted	2020, plots not planted	70.2		59.5		12.7					
Bobcat			73.7	78.1	59.4	60.6	13.5	12.9				
Brawl CL Plus			63.9	63.1	61.2	62.3	14.6	14.4				
Byrd CL Plus			67.5		59.5		12.1					
Flathead			66.4	64.4	60.5	60.8	13.2	13.1				
FourOsix			68.6	67.2	60.3	61.1	12.8	12.9				
Judee			64.9	71.1	61.0	61.5	14.1	13.8				
Keldin			70.1	77.7	60.3	61.3	12.9	12.3				
LCS Jet			74.4	76.9	57.8	58.2	12.2	12.2				
Loma			70.9	79.0	60.1	60.7	13.2	13.0				
MT1745												
+ MT1872												
MTCL1737												
+ MTCS20156												
+ MTS18116												
MTS18149												
+ MTS1831												
+ MTS1855												
Northern			71.5	73.4	60.0	60.9	12.7	12.6				
Ray			71.7	75.2	60.3	59.8	12.0	12.4				
StandClear CLP			67.9	71.5	60.2	61.2	13.1	13.0				
SY Clearstone 2CL			69.6	76.5	59.6	59.7	12.1	12.6				
SY Monument			72.3	68.0	59.2	60.4	12.5	12.4				
Warhorse			60.9	64.9	58.2	59.4	14.0	13.8				
Yellowstone			70.1	78.7	60.0	60.3	12.7	12.6				
Average			68.2	72.2	59.8	60.6	13.0	12.9				
LSD (0.05)			ns	ns	1.3	1.4	1.0	0.9				
C.V. (%)			8.6	7.7	1.4	1.1	4.5	3.2				

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 55. 2018-2019 Off-Station Winter Wheat Test (Exp. 3865): Shelby area - Devon (WTARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)		Protein (%)	
			2019	2018-19	2019	2018-19	2019	2018-19
			1y	2y	1y	2y	1y	2y
AAC Wildfire			46.7		60.7		12.8	
Bobcat			64.8	57.0	61.5	60.9	12.7	12.5
Brawl CL Plus			42.1	37.3	63.1	62.3	12.6	13.0
Byrd CL Plus			47.9		61.7		11.7	
Flathead			38.9	38.9	61.6	60.2	12.9	13.1
FourOsix			46.0	43.7	60.8	59.6	12.7	12.5
Judee			43.9	42.8	62.3	61.2	13.7	13.3
Keldin			45.9	42.9	61.1	60.3	12.5	12.2
LCS Jet			37.9	40.5	58.4	56.9	12.4	12.2
Loma			52.9	49.0	61.9	60.2	13.2	13.0
MT1745					60.2		13.0	
+ MT1872								
MTCL1737								
+ MTCS20156								
+ MTS18116								
MTS18149								
+ MTS1831								
+ MTS1855								
Northern			59.1	52.9	61.9	60.4	12.7	12.7
Ray			49.8	43.7	59.9	58.0	12.4	12.5
StandClear CLP			52.8	47.0	62.5	61.2	12.5	12.6
SY Clearstone 2CL			44.7	42.8	60.1	58.9	13.1	12.8
SY Monument			42.2	38.1	59.7	58.4	11.9	12.3
Warhorse			54.6	47.8	61.8	60.6	13.2	13.3
Yellowstone			53.7	49.0	59.8	58.9	12.8	12.7
Average			48.9	45.5	61.2	59.9	12.7	12.7
LSD (0.05)			11.8	9.3	1.3	1.1	0.5	ns
C.V. (%)			13.9	9.6	1.3	0.9	2.3	2.5

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 56. 2018-2019 Off-Station Winter Wheat Test (Exp. 3863): Choteau area (WTARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)				Protein (%)			
			2019	2018-19			2019	2018-19			2019	2018-19
			1y	2y			1y	2y			1y	2y
AAC Wildfire	2021, plots not planted	2020, plots not planted	88.0				62.5				13.2	
Bobcat			86.9	84.4		62.6	60.9		13.3	14.3		
Brawl CL Plus			69.7	75.0		63.8	63.2		14.1	14.2		
Byrd CL Plus			86.8			62.8			12.1			
Flathead			69.6	71.5		62.6	61.5		13.2	13.8		
FourOsix			77.6	74.8		62.5	60.0		13.1	14.0		
Judee			73.3	72.0		63.8	61.3		13.9	14.9		
Keldin			88.5	79.7		62.8	61.7		13.4	14.3		
LCS Jet			74.8	73.3		60.3	58.0		13.3	14.0		
Loma			88.5	81.3		62.1	59.7		13.8	14.6		
MT1745												
+ MT1872												
MTCL1737												
+ MTCS20156												
+ MTS18116												
MTS18149												
+ MTS1831												
+ MTS1855												
Northern			77.7	75.0		62.2	60.8		13.3	14.0		
Ray			76.8	69.7		60.6	58.7		13.0	13.7		
StandClear CLP			79.0	77.5		63.4	62.0		13.2	13.9		
SY Clearstone 2CL			73.9	70.7		61.5	59.5		13.3	14.1		
SY Monument			73.1	73.7		61.9	60.4		12.7	13.4		
Warhorse			75.8	71.1		61.8	60.0		13.9	14.4		
Yellowstone			81.8	76.2		61.2	59.4		13.1	14.0		
Average			79.2	75.0		62.4	60.4		13.3	14.1		
LSD (0.05)			12.1	ns		0.9	1.7		0.4	0.7		
C.V. (%)			8.7	8.3		0.9	1.3		1.6	2.4		

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 57. 2019-2021 Off-Station Winter Wheat Test (Exp. 3871): Denton (CARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)			Protein (%)		
	2021	2020-21	2019-21		2021	2020-21	2019-21	2021	2020-21	2019-21
	1y	2y	3y		1y	2y	3y	1y	2y	3y
AAC Wildfire	17.2	59.3	59.3	2018, spring wheat contam- ination data not used	55.7	58.9	58.7	16.6	14.4	13.9
Bobcat	28.6	57.8	58.8		57.5	59.8	60.1	16.7	14.3	13.3
Brawl CL Plus	28.3	53.6	54.4		58.2	60.2	60.7	16.2	14.4	13.7
Byrd CL Plus	23.8	58.9	61.2		55.9	58.9	59.1	16.3	14.0	13.0
Flathead	24.8	62.2	59.5		58.0	59.9	60.1	15.5	13.8	13.2
FourOsix	29.7	69.8	69.5		56.8	59.7	59.4	16.4	14.4	13.5
Judee	25.2	61.9	60.1		57.8	60.2	60.2	16.7	14.4	13.8
Keldin	24.1	61.0	64.0		55.7	59.0	59.5	17.4	15.0	14.1
LCS Jet	22.5	65.3	65.7		54.5	57.0	57.0	16.6	14.6	13.5
Loma	26.5	60.8	61.0		56.0	58.6	59.1	17.2	15.0	13.7
MT1745	20.6	58.3		57.7	59.5		15.9	14.3		
+ MT1872	17.1			56.7			15.6			
MTCL1737	20.5	56.5		58.2	59.9		16.5	14.7		
+ MTCS20156	19.9			57.1			17.3			
+ MTS18116	27.1			57.8			15.8			
MTS18149	29.6	64.3		56.8	58.7		17.4	14.9		
+ MTS1831	24.6			57.3			16.4			
+ MTS1855	23.0			57.8			17.3			
Northern	23.8	68.8	68.3	57.2	59.2	59.8	17.0	14.5	13.6	
Ray	23.1	26.0	36.7	56.8	57.7	58.0	16.0	14.7	13.7	
StandClear CLP	28.9	67.9	66.0	58.2	60.5	60.6	15.8	14.1	13.4	
SY Clearstone 2CL	20.1	55.5	56.9	57.6	59.3	59.2	16.5	14.6	13.6	
SY Monument	21.4	58.4	58.9	54.4	57.5	58.2	16.4	14.3	13.3	
Warhorse	20.8	62.6	62.3	55.7	58.5	59.1	16.8	14.7	13.8	
Yellowstone	25.3	59.5	59.4	56.9	59.1	59.4	15.4	13.7	12.9	
Average	23.9	59.4	60.1	56.9	59.1	59.3	16.5	14.4	13.5	
LSD (0.05)	7.5	ns	ns	1.4	1.8	1.3	ns	ns	ns	
C.V. (%)	17.9	21.0	18.1	1.5	1.5	1.3	5.3	3.2	3.4	

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 58. 2018//2021 Off-Station Winter Wheat Test (Exp. 3872): Geraldine (CARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)			Test Weight (lb/bu)			Protein (%)		
	2021	2019//21	2018//21	2021	2019//21	2018//21	2021	2019//21	2018//21
	1y	2y	3y	1y	2y	3y	1y	2y	3y
AAC Wildfire	23.5	2020, plots not planted	51.5	53.2	57.3		15.0	13.2	
Bobcat	38.1		54.3	55.5	58.4	60.3	14.4	13.1	12.7
Brawl CL Plus	45.8		63.4	56.5	59.4	61.3	14.1	13.5	13.5
Byrd CL Plus	35.9		60.7	53.4	57.3		14.6	12.7	
Flathead	35.6		53.6	56.6	59.3	60.8	14.6	13.1	12.6
FourOsix	38.3		54.1	54.5	57.9	59.8	14.3	12.9	12.5
Judee	34.6		53.5	54.5	58.5	60.5	15.0	13.3	13.0
Keldin	45.9		64.4	55.4	58.5	60.4	14.1	12.7	12.5
LCS Jet	28.9		51.2	52.6	55.5	57.2	14.0	12.5	12.3
Loma	33.7		55.7	54.6	58.0	59.7	14.6	13.0	12.5
MT1745	35.6			53.9			14.5		
+ MT1872	27.5			51.8			13.9		
MTCL1737	33.1			56.4			14.8		
+ MTCS20156	35.7			56.2			14.8		
+ MTS18116	29.7			55.7			15.1		
MTS18149	37.5			55.4			15.2		
+ MTS1831	31.3			56.0			14.5		
+ MTS1855	33.0			54.5			15.9		
Northern	36.9		61.0	55.2	58.4	60.1	15.5	13.5	13.1
Ray	35.8		48.8	54.3	57.2	58.7	14.4	13.1	12.7
StandClear CLP	37.1		57.0	55.3	58.6	60.4	14.7	13.3	12.9
SY Clearstone 2CL	40.2		62.2	53.8	57.1	59.0	14.5	13.0	12.6
SY Monument	40.2		62.5	54.0	57.2	59.2	13.5	12.2	12.0
Warhorse	35.7		54.4	54.0	57.6	59.6	15.0	13.5	13.2
Yellowstone	32.6		55.2	54.2	57.6	59.3	14.8	13.0	12.5
Average	35.3		56.6	54.7	57.8	59.8	14.6	13.0	12.7
LSD (0.05)	7.6		ns	1.7	1.2	0.7	0.7	ns	0.6
C.V. (%)	12.0		9.3	1.7	1.0	0.7	2.8	3.4	3.0

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 59. 2018//2021 Off-Station Winter Wheat Test (Exp. 3875): Belt (CARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)			Test Weight (lb/bu)			Protein (%)		
	2021	2019//21	2018//21	2021	2019//21	2018//21	2021	2019//21	2018//21
	1y	2y	3y	1y	2y	3y	1y	2y	3y
AAC Wildfire	55.7	2020, plots not planted	64.3	59.0	61.1		10.5	10.2	
Bobcat	56.2		65.8	60.4	62.0	62.1	9.5	9.9	10.7
Brawl CL Plus	74.1		68.2	61.2	61.9	61.9	9.6	11.2	12.0
Byrd CL Plus	66.4		78.0	58.7	60.7		9.3	9.2	
Flathead	57.4		59.8	60.4	61.7	61.9	10.3	10.3	10.9
FourOsix	56.5		60.3	59.2	61.0	61.2	9.4	10.1	10.7
Judee	51.1		61.0	60.0	62.0	62.1	10.4	10.1	11.0
Keldin	63.9		60.8	60.2	61.4	61.2	9.1	9.8	11.0
LCS Jet	61.0		64.9	56.8	58.2	58.2	9.6	9.7	10.4
Loma	55.8		65.1	60.1	62.0	61.8	9.1	9.5	10.2
MT1745	59.6			59.2			9.8		
+ MT1872	50.8			58.4			9.7		
MTCL1737	50.0			60.2			10.8		
+ MTCS20156	50.9			60.0			10.3		
+ MTS18116	48.8			60.4			9.6		
MTS18149	49.3			60.2			10.1		
+ MTS1831	54.0			60.7			9.0		
+ MTS1855	58.7			61.2			9.4		
Northern	60.1		66.6	60.4	62.1	61.8	10.5	10.3	11.1
Ray	54.4		58.5	58.5	60.5	60.1	10.0	10.0	10.6
StandClear CLP	54.8		66.1	60.3	62.1	62.2	9.9	10.1	10.9
SY Clearstone 2CL	55.9		60.2	59.7	61.0	60.9	10.1	9.9	10.4
SY Monument	58.7		67.5	58.5	60.3	60.4	9.1	9.3	10.1
Warhorse	54.9		58.4	59.9	61.9	61.7	10.2	10.5	11.3
Yellowstone	59.3		64.1	59.2	60.9	60.9	9.7	9.7	10.3
Average	56.7		64.1	59.7	61.2	61.2	9.8	10.0	10.8
LSD (0.05)	6.2		ns	0.8	1.1	0.8	0.7	ns	0.9
C.V. (%)	6.2		10.6	0.7	0.9	0.8	3.7	6.8	5.1

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 60. 2018-2019 Off-Station Winter Wheat Test (Exp. 3876): Highwood (CARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)		Protein (%)	
			2019	2018-19	2019	2018-19	2019	2018-19
			1y	2y	1y	2y	1y	2y
AAC Wildfire	2021, plots not planted	2020, plots not planted	61.9		62.4		11.0	
Bobcat			44.7	40.7	59.4	61.2	12.0	13.1
Brawl CL Plus			38.5	30.0	62.4	63.1	12.6	14.0
Byrd CL Plus			58.8		61.9		10.3	
Flathead			42.1	34.5	62.0	62.9	11.8	13.2
FourOsix			53.3	46.1	61.6	62.6	11.6	12.6
Judee			49.7	50.3	63.0	63.7	11.7	12.8
Keldin			44.4	38.5	60.9	62.0	11.7	13.3
LCS Jet			49.0	44.2	59.4	60.4	11.1	12.3
Loma			55.2	45.9	61.5	62.3	12.1	13.4
MT1745								
+ MT1872								
MTCL1737								
+ MTCS20156								
+ MTS18116								
MTS18149								
+ MTS1831								
+ MTS1855								
Northern			58.3	46.1	61.7	62.6	11.6	13.2
Ray			42.1	36.6	60.5	61.5	11.8	12.9
StandClear CLP			43.0	37.2	61.3	62.2	12.6	13.6
SY Clearstone 2CL			55.7	50.8	61.1	62.1	10.9	11.9
SY Monument			60.6	53.5	60.9	62.3	10.4	11.6
Warhorse			47.9	45.6	61.4	62.3	12.4	13.3
Yellowstone			54.2	44.7	61.4	62.3	11.0	12.7
Average			51.5	43.6	61.5	62.3	11.5	12.9
LSD (0.05)			8.6	8.9	1.2	0.8	0.7	0.7
C.V. (%)			9.1	9.7	1.2	0.6	3.5	2.6

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 61. 2018//2021 Off-Station Winter Wheat Test (Exp. 3880): Huntley Irrigated (SARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)			Protein (%)		
	2021	2020-21	2018//21		2021	2020-21	2018//21	2021	2020-21	2018//21
	1y	2y	3y		1y	2y	3y	1y	2y	3y
AAC Wildfire	99.7	105.6	2019, hailed out		61.2	60.1		14.0	13.8	
Bobcat	104.5	106.2		101.6	61.5	60.1	59.9	13.7	14.0	14.1
Brawl CL Plus	105.6	115.2		116.0	63.7	63.6	63.0	14.1	13.4	13.4
Byrd CL Plus	110.4	115.8			62.8	60.8		12.3	12.3	
Flathead	110.4	116.4		111.5	64.3	62.9	61.5	13.6	13.1	13.3
FourOsix	118.6	120.7		108.1	63.5	61.9	60.9	12.7	12.9	13.3
Judee	92.6	93.2		90.9	62.2	60.8	60.7	14.2	13.7	13.6
Keldin	118.8	138.0		134.3	62.2	61.8	61.8	13.3	12.8	12.9
LCS Jet	120.5	132.7		133.5	62.1	60.9	60.0	12.3	12.3	12.7
Loma	109.7	103.3		98.1	61.8	60.4	59.3	13.3	13.3	13.5
MT1745	115.8	115.2			63.1	61.4		12.8	12.8	
+ MT1872	105.4				63.2			12.4		
MTCL1737	106.9	108.3			62.9	60.2		13.1	13.2	
+ MTCS20156	109.5				62.0			14.3		
+ MTS18116	106.2				62.8			12.6		
MTS18149	107.6	106.5			61.0	60.0		13.6	13.5	
+ MTS1831	110.8				63.4			12.3		
+ MTS1855	107.9				62.7			14.0		
Northern	112.0	115.6		112.0	61.6	60.7	60.3	13.7	13.4	13.3
Ray	118.2	106.4		106.6	61.6	58.9	58.8	12.0	13.0	13.2
StandClear CLP	108.0	113.2		110.3	62.4	62.2	61.7	13.6	13.5	13.6
SY Clearstone 2CL	111.5	104.5		103.0	62.1	59.4	59.0	12.8	13.1	13.3
SY Monument	107.8	117.5		116.8	62.1	60.8	60.6	12.9	12.8	12.9
Warhorse	106.2	110.4		108.2	63.1	61.6	61.3	13.2	13.7	13.9
Yellowstone	115.3	108.5		104.3	61.6	59.1	58.9	12.9	13.2	13.2
Average	109.6	112.6		110.3	62.4	60.9	60.5	13.2	13.2	13.3
LSD (0.05)	ns	ns		16.9	ns	2.3	1.8	1.0	ns	ns
C.V. (%)	9.1	10.3		9.1	1.8	1.8	1.8	4.4	4.2	3.9

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 62. 2018-2021 Off-Station Winter Wheat Test (Exp. 3881): Rapelje (SARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)				Protein (%)			
	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21
	1y	2y	3y	4y	1y	2y	3y	4y	1y	2y	3y	4y
AAC Wildfire	19.8	37.4	47.9		55.7	59.0	60.5		17.8	15.2	14.2	
Bobcat	23.2	42.2	54.0	70.5	58.9	61.0	61.8	62.2	16.8	14.5	13.7	13.5
Brawl CL Plus	30.0	39.2	48.3	65.1	58.6	61.3	62.3	62.8	16.9	15.7	15.3	15.1
Byrd CL Plus	26.6	38.4	51.7		55.9	59.5	60.6		17.7	15.2	13.9	
Flathead	27.1	36.3	49.0	68.8	57.6	60.5	61.6	62.1	17.5	15.9	14.9	14.6
FourOsix	25.6	43.6	55.2	71.2	57.8	60.3	61.4	61.8	17.1	15.1	14.2	14.1
Judee	24.2	37.6	48.9	63.1	56.6	59.7	61.2	61.6	17.9	16.2	15.1	14.7
Keldin	22.7	36.3	52.8	70.4	57.4	59.8	61.1	61.3	16.6	15.0	14.1	14.0
LCS Jet	23.5	46.2	56.9	74.3	55.8	58.3	59.2	59.2	16.1	13.9	13.1	13.0
Loma	24.9	36.9	50.6	67.6	58.3	60.2	61.1	61.0	18.0	16.0	14.7	14.2
MT1745	24.8	42.3			58.5	60.9			16.3	14.3		
+ MT1872	23.0				57.3				17.0			
MTCL1737	11.9	38.9			58.3	60.4			16.8	14.3		
+ MTCS20156	22.6				59.3				17.2			
+ MTS18116	21.3				56.1				17.2			
MTS18149	19.4	32.8			57.2	59.5			18.0	16.0		
+ MTS1831	20.1				57.6				16.5			
+ MTS1855	20.5				57.6				18.2			
Northern	19.4	37.5	54.1	73.3	57.7	60.1	61.1	61.3	17.6	15.5	14.3	14.0
Ray	19.4	36.8	49.9	67.0	56.7	59.1	60.0	59.5	16.4	14.6	13.9	13.6
StandClear CLP	24.7	45.2	55.2	72.3	58.5	61.1	62.0	62.4	17.3	14.5	13.9	13.9
SY Clearstone 2CL	20.1	38.2	52.5	69.2	56.5	59.2	60.2	60.3	16.8	15.0	14.0	13.8
SY Monument	27.7	35.6	45.8	69.1	55.3	58.5	59.9	60.6	16.5	15.1	14.0	13.7
Warhorse	19.9	38.0	50.7	68.1	57.1	59.8	60.9	61.0	17.4	15.4	14.7	14.7
Yellowstone	23.2	39.1	54.1	70.3	58.2	59.9	60.8	60.9	17.1	15.3	14.3	14.1
Average	22.6	38.9	51.7	69.3	57.4	59.9	60.9	61.2	17.1	15.1	14.3	14.1
LSD (0.05)	4.5	ns	ns	ns	2.2	1.4	1.0	1.1	1.0	1.2	1.0	0.8
C.V. (%)	10.7	17.3	11.1	9.2	2.2	1.1	1.0	1.2	3.4	3.8	4.1	3.8

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 63. 2019//2021 Off-Station Winter Wheat Test (Exp. 3882): Hysham [SARC] Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)		Protein (%)	
	2021	2019//21		2021	2019	2021	2019	
	1y	2y						
AAC Wildfire	2.8	2020, data not used	27.2	2018, no harvest hailed out	no data	60.0	no data	7.5
Bobcat	1.0		24.8			59.5		8.1
Brawl CL Plus	6.1		25.1			59.1		8.6
Byrd CL Plus	4.0		29.7			57.7		6.8
Flathead	7.2		27.4			58.8		7.3
FourOsix	1.7		25.2			57.7		7.1
Judee	0.6		24.9			60.3		7.9
Keldin	4.9		27.6			59.0		7.5
LCS Jet	2.2		25.6			56.3		7.5
Loma	2.5		25.5			60.3		8.3
MT1745	3.7							
+ MT1872	2.1							
MTCL1737	1.7							
+ MTCS20156	2.9							
+ MTS18116	2.3							
MTS18149	2.4							
+ MTS1831	1.1							
+ MTS1855	3.1							
Northern	3.1		27.4			59.8		7.7
Ray	1.5		23.9			59.2		7.7
StandClear CLP	4.9		24.3			58.8		7.6
SY Clearstone 2CL	1.1		30.4			58.8		7.2
SY Monument	3.8		23.5			57.3		7.2
Warhorse	2.6		25.8			59.0		7.8
Yellowstone	1.4		28.1			58.8		
Average	2.8		26.2			58.8		7.6
LSD (0.05)	2.0		ns					
C.V. (%)	39.8		14.4					

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 64. 2018-2020 Off-Station Winter Wheat Test (Exp. 3884): Fly Creek (Hardin area - SARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)				Protein (%)			
	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21
		1y	2y	3y	1y	2y	3y	4y	1y	2y	3y	4y
AAC Wildfire	not planted in 2021	62.6	71.8			62.0	61.0			12.5	12.8	
Bobcat		68.7	71.3	79.3		61.6	61.0	61.4		13.0	12.8	12.6
Brawl CL Plus		76.8	76.3	83.2		62.7	61.4	62.4		12.8	12.4	12.5
Byrd CL Plus		70.2	74.0			61.2	60.3			11.4	11.5	
Flathead		70.3	72.6	81.1		62.1	60.8	61.3		12.8	12.7	12.6
FourOsix		71.0	74.2	83.6		61.2	60.1	61.1		12.6	12.6	12.4
Judee		66.5	70.0	81.8		62.4	61.8	62.0		12.2	12.6	12.7
Keldin		74.5	85.2	94.8		62.0	61.1	61.7		11.9	11.9	12.0
LCS Jet		70.9	73.5	85.5		59.6	58.9	58.7		12.4	12.4	12.4
Loma		63.2	70.3	81.5		62.0	60.7	60.5		13.2	13.2	12.8
MT1745		68.1				61.2				12.6		
+ MT1872												
MTCL1737		56.2				61.2				13.3		
+ MTCS20156												
+ MTS18116												
MTS18149		62.3				62.5				12.6		
+ MTS1831												
+ MTS1855												
Northern		71.6	72.0	82.9		62.8	61.6	61.3		13.1	13.3	13.0
Ray		66.9	73.2	80.3		61.3	60.1	58.6		11.9	12.5	12.5
StandClear CLP		68.8	68.8	77.8		62.1	61.5	62.1		12.8	12.8	12.6
SY Clearstone 2CL		64.1	72.2	80.0		61.2	60.1	60.2		12.7	12.8	12.5
SY Monument		76.5	78.8	87.1		60.8	59.7	60.2		11.3	11.6	11.7
Warhorse		61.6	71.6	81.9		62.4	61.6	61.5		13.2	13.3	13.3
Yellowstone		68.1	72.2	80.0		61.2	60.3	59.7		12.3	12.6	12.4
Average		68.9	73.7	83.0		61.6	60.6	60.9		12.5	12.6	12.6
LSD (0.05)		6.5	ns	7.4		0.5	0.7	1.9		0.7	0.7	0.7
C.V. (%)		5.3	6.3	5.4		0.5	0.6	1.9		3.2	2.5	2.9

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 65. 2018//2021 Off-Station Winter Wheat Test (Exp. 3885): Molt (SARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)			Protein (%)			
	2021		2020-21		2018//21			2021		2020-21	2018//21
	1y	2y	2019, haled out		3y	1y	2y	3y	1y	2y	3y
AAC Wildfire	39.4	59.6				62.5	61.8		13.2	13.2	
Bobcat	37.6	59.1				63.1	61.4	61.7	13.5	13.1	12.5
Brawl CL Plus	40.6	58.2				61.1	61.1	61.9	13.6	13.5	12.8
Byrd CL Plus	40.7	70.8				59.8	60.6		12.8	12.6	
Flathead	36.4	60.8				62.3	60.7	61.0	13.3	13.2	12.5
FourOsix	40.8	61.8				62.9	61.8	61.3	13.1	13.0	12.4
Judee	41.6	63.1				62.8	62.0	62.0	13.6	13.4	12.4
Keldin	42.1	66.6				61.4	60.8	61.0	12.5	12.8	12.4
LCS Jet	39.6	58.5				60.0	60.1	59.8	13.3	13.1	12.5
Loma	36.4	64.9				62.2	62.0	61.4	14.0	12.8	12.1
MT1745	37.1	61.9				62.7	60.7		12.5	12.6	
+ MT1872	33.1					62.9			13.1		
MTCL1737	31.5	61.7				62.6	60.3		14.3	13.0	
+ MTCS20156	33.8					62.9			13.9		
+ MTS18116	39.6					63.2			13.0		
MTS18149	38.7	61.9				62.6	61.4		13.7	12.7	
+ MTS1831	39.4					64.1			12.8		
+ MTS1855	40.1					63.2			13.0		
Northern	39.9	63.9				61.6	61.2	61.7	12.6	12.2	11.9
Ray	37.3	55.3				61.0	59.8	60.0	13.4	13.3	12.4
StandClear CLP	39.9	60.1				62.8	61.3	61.9	13.2	12.5	12.1
SY Clearstone 2CL	36.4	57.3				61.6	61.0	61.0	13.3	12.7	12.1
SY Monument	38.2	61.4				61.4	61.4	61.2	12.7	12.4	11.6
Warhorse	36.6	59.6				62.9	62.9	62.5	13.9	13.2	12.5
Yellowstone	37.5	58.2				61.6	60.5	60.9	13.0	13.2	12.3
Average	38.2	61.2				62.2	61.1	61.3	13.3	12.9	12.3
LSD (0.05)	4.6	ns				1.9	ns	ns	0.6	ns	ns
C.V. (%)	7.4	8.3				1.9	1.8	1.5	2.5	4.9	4.0

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 66. 2018//2021 Off-Station Winter Wheat Test (Exp. 3886): Fort Smith (SARC) Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)			Test Weight (lb/bu)			Protein (%)			
	2021	2019//21	2018//21	2021	2019//21	2018//21	2021	2019//21	2018//21	
	1y	2y	3y	1y	2y	3y	1y	2y	3y	
AAC Wildfire	29.8	2020, hailed out	57.3	56.6	60.3		16.0	13.8		
Bobcat	32.5		55.5	68.2	57.4	60.9	61.1	15.8	13.9	13.5
Brawl CL Plus	38.3		49.6	51.7	57.7	61.1	61.2	15.7	15.0	15.1
Byrd CL Plus	34.0		61.5		56.2	60.2		15.1	13.3	
Flathead	36.2		57.1	61.3	56.6	60.1	60.3	15.6	14.4	14.0
FourOsix	32.3		58.2	64.6	55.1	59.5	59.5	15.8	13.9	13.6
Judee	32.4		56.5	63.9	58.0	61.3	61.3	16.7	14.8	14.5
Keldin	42.5		63.0	74.2	55.4	59.9	60.2	16.7	14.2	13.7
LCS Jet	31.7		56.6	68.9	54.7	57.9	57.9	16.1	13.8	13.4
Loma	34.9		60.2	71.0	54.2	58.9	58.7	17.1	14.4	13.8
MT1745	30.7				57.4			15.5		
+ MT1872	32.2				56.5			14.7		
MTCL1737	21.6				57.9			16.9		
+ MTCS20156	29.1				57.0			16.3		
+ MTS18116	28.8				57.2			16.1		
MTS18149	32.0				55.9			16.8		
+ MTS1831	30.2				57.7			15.3		
+ MTS1855	29.8				57.4			16.5		
Northern	29.9		60.7	70.3	56.5	60.1	59.6	16.4	14.2	13.9
Ray	27.6		51.1	63.5	57.1	59.4	58.5	15.9	14.0	13.6
StandClear CLP	32.1		53.0	66.1	57.1	60.7	61.0	15.3	13.9	13.6
SY Clearstone 2CL	27.5		54.4	67.0	58.1	60.5	59.1	16.9	14.4	13.8
SY Monument	35.6		50.9	55.8	54.2	58.6	59.4	15.5	13.8	13.5
Warhorse	29.1		55.1	64.2	55.7	59.6	59.4	16.3	14.4	14.4
Yellowstone	33.3		56.4	66.6	55.9	59.6	59.5	16.4	14.2	13.7
Average	31.8		56.3	65.1	56.6	59.9	59.8	16.1	14.1	13.9
LSD (0.05)	5.4		ns	ns	1.0	ns	1.9	0.9	ns	ns
C.V. (%)	10.3		11.8	11.8	1.0	1.5	1.9	3.4	4.9	4.4

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 67. 2018-2021 Off-Station Winter Wheat Test (Exp. 38): Combined Locations - Yield, Test Weight and Protein

Cultivar/Line	Grain Yield (bu/a)				Test Weight (lb/bu)				Protein (%)			
	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21	2021	2020-21	2019-21	2018-21
location-years	10	18	31	45	10	17	30	44	10	17	30	44
AAC Wildfire	41.8	54.8	60.3		57.3	58.7	59.7		14.5	13.9	13.1	
Bobcat	44.3	56.0	61.6	65.0	58.3	59.4	60.2	60.6	14.3	13.8	13.0	13.1
Brawl CL Plus	49.2	57.9	58.4	60.3	59.4	60.6	61.2	61.7	14.3	13.9	13.5	13.7
Byrd CL Plus	48.6	60.5	64.8		57.4	58.8	59.8		13.8	13.2	12.3	
Flathead	47.2	58.1	59.1	61.6	59.1	59.9	60.6	60.8	14.2	13.8	13.1	13.2
FourOsix	49.1	60.8	63.1	64.4	58.0	59.2	60.0	60.2	14.0	13.6	12.9	13.0
Judee	41.6	53.6	57.8	61.3	58.5	59.7	60.8	61.0	14.9	14.3	13.5	13.5
Keldin	50.4	63.3	65.9	69.1	58.0	59.2	60.2	60.5	14.1	13.6	12.8	13.0
LCS Jet	48.0	60.5	62.3	66.6	56.2	57.5	57.9	58.0	14.0	13.4	12.6	12.7
Loma	48.5	58.4	63.0	66.1	58.0	59.2	60.1	60.1	14.6	14.0	13.2	13.2
MT1745	46.7	58.8			58.3	59.4			13.7	13.3		
+ MT1872	42.3				57.6				13.9			
MTCL1737	41.9	55.5			59.0	59.4			14.7	13.9		
+ MTCS20156	44.3				59.0				14.6			
+ MTS18116	43.4				58.7				14.0			
MTS18149	45.8	57.0			58.2	59.2			14.7	14.0		
+ MTS1831	43.8				58.9				13.8			
+ MTS1855	43.7				58.9				14.7			
Northern	46.0	59.9	64.5	67.5	58.1	59.3	60.3	60.4	14.6	14.0	13.1	13.2
Ray	45.0	51.3	56.3	60.4	57.3	58.1	58.9	58.8	13.9	13.6	12.8	12.9
StandClear CLP	45.3	58.5	60.6	64.0	59.0	60.2	60.9	61.2	14.0	13.5	12.9	13.0
SY Clearstone 2CL	44.3	55.3	60.2	63.7	58.2	59.0	59.6	59.6	14.4	13.9	12.9	13.0
SY Monument	46.9	58.6	61.6	64.8	56.9	58.4	59.2	59.7	13.6	13.1	12.4	12.4
Warhorse	44.4	56.1	59.0	62.3	57.8	59.3	60.1	60.2	14.6	14.1	13.5	13.6
Yellowstone	46.5	56.7	61.5	64.2	57.9	58.8	59.6	59.7	14.1	13.7	12.9	12.9
Average	45.6	57.6	61.2	64.4	58.2	59.2	59.9	60.2	14.2	13.7	13.0	13.1
LSD (0.05)	4.2	4.9	3.6	3.0	0.7	0.6	0.4	0.3	0.4	0.3	0.2	0.2
C.V. (%)	11.0	13.1	11.7	11.4	1.1	1.5	1.3	1.4	3.4	3.7	3.8	3.6

+ = new for 2021

bold = indicates highest value within a column

bold = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)