

Motion Two: Winter Triticale variety release 2004.

Move that winter triticale line K99SRT119 be release by the Montana Agricultural Experiment Station for grain production. It is recommended that this variety be grown in environments with moderate winters, as its hardiness has not been evaluated at Sidney or Williston. Foundation seed would be available the fall of 2005.

K99SRT119 originates from material received from Matt Kolding, retired Oregon State University agronomist. Twice it was selected as one of 16 to advance from Initial screening nurseries of 100 single row lines based on agronomic appearance and yield. Its rank across all statewide trials seeded at Bozeman, Huntley, Moccasin, and Sheridan in 2003, 2002, and 2001 was 2nd, 8th, and 14th, respectively(See Tables 1,2,3). The main K99SRT119 attribute justifying its release is it has white kernels. No taste test have been conducted, but it is assumed it would have a flavor different than red and tan colored kernels. The white kernel color offers the potential for specialize marketing. K99SRT119 does have a smaller kernel size, which is generally undesirable.

has been stable K99SRT119 winter triticale It was selected has white grain kernels which are relatively smaller than most other triticale lines being evaluated (visual assessment – no data). K99SRT119 winter triticale It has consistently been one of the top grain producers in selection and evaluation nurseries planted at Moccasin, Huntley, and Bozeman, Montana and at Sheridan, Wyoming. This line has exhibited excellent genetic stability rarely having off-types or symptoms of out crossing and has good uniformity in plant height. It is a mid tall line which is typically within 0 to 2 inches of the nursery mean and slightly taller than Tiber winter wheat. It does have good to excellent forage production potential, also. However, it has a bushy spike with relatively long awns that diminishes its attractiveness as cereal forage.

Tables 1, 2, and 3 present yield performance summaries for the years 2003, 2002, and 2001 respectively. Table 4 presents a regression comparison of **K99SRT119** with evaluation nursery means and provides a projected yield relative to a nursery mean based on these past performances.

Table 1 **2003 Winter triticale grain nursery multi-location mean yield.**

Exp WTG3 Montana & Wyoming Agricultural Experiment Station.

ID	Pedigree	Trt	Bozeman	Moccasin	Sheridan	Average
			lbs/a	lbs/a	lbs/a	lbs/a
K943	KT943112	21	5378	2341	4561	4093
KT119	K99SRT119	19	4917	2795	4543	4085
KT84	91T113-C12-5	4	6473	2755	2999	4076
KT0107	KT940872p8006	20	5197	2176	4756	4043
KT09	KW941531-6005	12	5793	2679	3620	4031
T35	KT941289	5	5753	2633	3478	3955
KT35	KT941256-8007	1	6055	2466	2999	3840
TR19	SR94721	18	4805	1966	4667	3813
KT991	KT991034	17	4769	2236	4366	3790
KT0111	KT941276-8004	15	5572	2382	3407	3787
WW1	Tiber	13	5101	2448	3631	3727
KT990	KT990174	11	4951	2666	3443	3687
KT3	KT941864-5002	3	5378	2466	3088	3644
KT0102	D98SRT99-3	14	5268	2025	3549	3614
KT0108	KT940874p8012	8	5557	1934	3141	3544
KT0109	KT940608p9029	9	5212	2357	2999	3523
KT0116	KT981146p9036	16	4619	2173	3461	3418
TR18	SR94719	2	5237	2073	2875	3395
KT0106	KT940608p9003	10	4812	2247	3106	3388
KT91	KT941776-5002	6	5299	2121	2744	3388
TD01	Trical 102	7	4177	1859	2957	2998
OVERALL MEAN =			5253	2323	3542	3706
CV (S/MEAN) % =			5.3	6.679	11.19	
LSD(0.05 by t)=			462	323.7	560.8	

Table 2 **2002** Multi-location grain yield performance of winter triticale.

Exp SWTG Test locations Bozeman, Moccasin and Sheridan.

ID	Pedigree	Bozeman	Moccasin	Sheridan	Average
code		lbs/a	lbs/a	lbs/a	lbs/a
KT84	91T113C125	5139	2472	1343	2985
KT25	92E005	4858	2459	1409	2909
K809	KW941531-6005	4352	2513	1151	2672
KT35	KT941256	4480	2516	1010	2669
KT32	KT941289	4437	2285	1121	2614
K940	KT943112	4465	2337	911	2571
WW	Tiber	4022	2392	1219	2544
KT119	K99SRT119	4098	2282	979	2453
KT27	KT940794	4247	2086	989	2441
K944	KT940874-8001,2,3,	4447	1932	932	2437
KT06G	99SRT6	4314	1920	977	2404
KT3	KT941864	3923	2342	880	2382
KT33	KT941776	3699	2331	997	2342
TR18	SR94719	3616	2237	962	2272
K950	KT941276-8004	3919	1969	803	2230
KT30	KT940874-8002	3576	1812	716	2035
Mean		4218	2243	1025	2495
CV		8.5	9.274	15.04	
LSD	0.05	4.28**	346.8	257	

Table 3 2001Multi-location winter triticale variety trial grain yields.

Test locations Bozeman, Huntley, Moccasin, and Sheridan

ID	Cultivar/Line	Bozeman	Huntley	Moccasin	Sheridan	Average
		lbs/a	lbs/a	lbs/a	lbs/a	lbs/a
PI517194	Tiber (WW Check)	4804	2490	2750	1686	2932
TR18	SR 94719	5106	2260	2588	1616	2892
T34	Ugo	5280	2184	2542	1550	2889
TR01	91T113-C12-5	4593	2235	2842	1844	2879
KT3	KT941864-5002	5509	1916	2371	1676	2868
KT35	KT941256-8004	4715	2553	2493	1536	2824
KT33	KT941776-5002	4844	2365	2498	1516	2806
T37	RAH371-F93	4921	1808	2775	1682	2796
KT27	KT940794-8007	4890	2274	2529	1388	2770
T26	B0010	5260	1690	2587	1412	2737
TR 98	Frostat	5026	2126	2294	1108	2638
T35	RAH173-F93	4490	1726	2588	1706	2627
KT30	KT940874-8002	5262	1401	2409	1334	2601
KT119	K99SRT119 (white)	4092	1550	2654	1479	2444
KT103	K99SRT103	3917	1599	2229	1528	2318
KT25	KW940393W5001a	4404	2671			0
Average		4819.5	2052.9	1550	1550	2493
C.V.		11.7	40.8	9.246	9.246	
LSD (0.05)		ns	ns	465	238.9	

Table 4 Winter triticale yields of line KT99SRT119, nusery mean, and Tiber winter wheat.
Data collected from trials at Bozeman, Huntley, Moccasin, and Sheridan.

YEAR	Locatioin	KT99Srt119	Nursery	difference	Tiber
		Mean	Mean		
		lbs/a	lbs/a	lbs/a	lbs/a
2001	Huntley (SWTR08)	1550	2052.9	-503	2490
2001	Mocc SWTR07	2654	2536	118	2750
2001	Bozeman SWTR01	4092	4819.5	-728	4804
2001	TRWinSur Moccasin mound	2707	2520	187	2057
2002	Mocc No-Till SWTR70 (SW1)	1405	1384	21	1433
2002	Mocc SWTR07	2282	2243	39	2392
2002	Bozeman SWTR01	4098	4218	-120	4022
2002	Sheridan WTG	979	1025	-46	1219
2003	Bozeman SWTR01	4917	5253	-336	5101
2003	Sheridan WTG03	4543	3542	1001	3631
2003	WCF03 Statewide NW7	2795	2323	472	2448
Average		2911	2901	10	2941

Regression Statistics		Y=0.925 X + 210
Multiple R		0.945906088
R Square		0.894738327
Adjusted R Square		0.88421216
Standard Error		455.8466009
Observations		12

Projections	
Nursery	
mean yield K99SRT119	
lbs/a	lbs/a
1500	1598
3750	3679
6000	5760

ANOVA

	df	SS	MS	F	Significance F
Regress	1	17662949.01	17662949.01	85.001340	3.32989E-06
Resid	10	2077961.236	207796.1236		
Total	11	19740910.25			

	Coefficients	Standard Error	t Stat	P-value
Intercept	210.4393683	309.3626982	0.680235	0.511796
X Variab	0.925576924	0.100392121	9.219617	0.000003
			Lower 95%	Upper 95%
Intercept			-478.8638	899.7425
X Variab			0.7019	1.1493

Table 5 2001 Winter triticale grain protein

Code	Variety	Boz	SARC	CARC	ave
TR 98	Frostat	15.0	16.8	17.8	16.5
T35	RAH173-F93	15.2	15.9	16.1	15.8
KT25	KW940393W5001a	14.8	16.8	17.3	16.3
KT103	K99SRT103	15.7	16.2	17.8	16.6
KT33	KT941776-5002	15.5	16.8	17.6	16.6
KT119	K99SRT119 (white)	15.5	15.9	15.7	15.7
PI517194	Tiber (WW Check)	16.2	17.5	17.9	17.2
TR18	Ugo Polish	16.1	17.9	17.9	17.3
KT3	KT941864-5002	14.5	15.6	17.5	15.9
TR01	91T113-C12-5	15.0	16.0	15.6	15.5
KT30	KT940874-8002	16.0	19.1	16.4	17.1

Table 5A 2003 Winter triticale protein on a dry seed basis.

Location:		Boz Shrdn		Location:		Boz Shrdn	
		%	%			%	%
KT35	KT941256-8007	15.8	11.7	KT09	KW941531-6005	15.3	10.6
TR18	SR94719	16.4	12.0	WW1 Tiber		17.6	13.6
KT3	KT941864-5002	15.6	11.0	KT0102	D98SRT99-3	17.8	14.5
KT84	91T113-C12-5	14.6	10.9	KT0111	KT941276-8004	17.8	13.5
T35	KT941289	15.1	11.1	KT0116	KT981146p9036	17.9	11.8
KT91	KT941776-5002	16.2	13.4	KT991	KT991034	16.5	13.8
TD01	Trical 102	17.1	12.6	TR19	SR94721	16.7	13.5
KT0108	KT940874p8012	17.6	12.5	KT119 K99SRT119		15.4	11.5
KT0109	KT940608p9029	18.7	12.6	KT0107	KT940872p8006	15.7	11.8
KT0106	KT940608p9003	17.4	12.0	K943	KT943112	16.2	12.2
KT990	KT990174 white	15.0	11.4				
				average		16.5	12.3

Table 6 2000 Winter Survival of Triticale. Seeded on west facing slope.
Central Agricultural Research Center, Moccasin, MT

	Stand	STAND	HEAD
	6/4/2001	4/30/2001	DATE
	%	plts/3'	d of Y
KT941256-8007	100	48	171
KT941864-5002	100	49	172
KW940393W5001a	100	54	166
B0010	100	46	176
RAH 371-F93	100	45	167
KT940794-8007	98	62	168
KT940874-8002	98	51	164
91T113-C12-5	98	52	163
SR94719	97	48	176
UGO	97	51	170
Frostat	95	28	170
RAH 173-F93	95	41	168
K99SRT103	90	47	166
KT941256-8006	90	48	171
K99SRT119whitesd (3-7-00sding)	90	51	164
Tiber	80	59	175
Rampart	70	37	176