

PROJECT TITLE: Statewide winter triticale trial.

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OBJECTIVES:

To evaluate winter triticale selections which exhibit high yield, good quality, and winter hardiness in environments and cropping methods representative of Montana. To develop a winter feed grain adapted to livestock production areas in eastern Montana because seeding spring grains conflicts with calving and lambing.

RESULTS:

Grain yields ranged from 1108 to 5509 lbs/a with the highest yields obtained at the Bozeman site (Table 63). Differences in yield between cultivars were not significant at the Bozeman or Huntley sites and no single cultivar was the highest yielding at all sites. Tiber winter wheat was moderate in yield usually yielding above the nursery average at each location. Heading dates ranged from 150 to 170 days with the average heading date for all nurseries being 158 days from January 1 on June 7. The average heading date for triticale selections at each location was three days prior to the heading date for Tiber winter wheat.

Test weights for the triticale entries ranged from 48.7 to 57.3 lbs/bu based on a standard of 50 lbs/bu (Table 64). The average test weight for all entries and all locations was 54.7 lbs/bu, well below that of Tiber winter wheat but above the standard of 50 lbs/bu. Plant heights ranged from 20 to 43 inches dependent on location and available moisture. Grain protein levels ranged from 14.0 to 19.1 percent and nursery averages were generally one percent lower than that of Tiber winter wheat.

FUTURE PLANS:

The statewide triticale trial will continue to be evaluated at the Central Agricultural Research Center.

Table 63. 2001 Statewide triticale multi-location yield and heading date performance.
Exp. TRSW Central Agricultural Research Center, Moccasin, MT.

Pedigree	----- Yield -----					----- Heading Date -----				Average Heading
	Moccasin	Sheridan	Bozeman	Huntley	Average Yield	Moccasin	Sheridan	Bozeman	Huntley	
	lbs/a	lbs/a	lbs/a	lbs/a	lbs/a	day	day	day	day	day
Frostat	2294	1108	5026	2126	2638	160	150	168	153	158
RAH173-F93	2588	1706	4490	1808	2648	159	150	164	152	156
K99SRT103	2229	1528	3917	1599	2318	160	152	161	151	156
K99SRT119	2654	1479	4092	1550	2444	162	148	161	151	156
Tiber	2750	1686	4804	2490	2932	165	152	169	156	160
UGO	2542	1550	5280	2184	2889	163	149	166	153	158
KT941864-5002	2371	1676	5509	1916	2868	162	150	167	152	158
91T113-C12-5	2842	1844	4593	2235	2879	157	150	160	147	154
KT940874-8002	2409	1334	5262	1401	2601	161	151	170	158	160
B0010	2587	1412	5260	1690	2737	169	149	170	159	162
KT940794-8007	2529	1388	4890	2274	2770	161	151	166	151	157
RAH371-F93	2775	1682	4921		3126	161	150	168		160
KT941776-5002	2498	1516	4844		2953	165	151	166		161
KT941256-8004	2493	1536	4715		2915	163	152	164		159
92 E005	2421	1732			2077	160	148			154
SR 94719	2588	1616			2102	169	146			158
KW940393W5001a			4404	2671	3538			163	150	157
UGO Polish			5106	2260	3683			168	156	162
KT941256-8006				2365	2365				154	154
KT941256-8007				2553	2553				153	153
KT941289				1726	1726				151	151
Average	2536.0	1550.0	4819.5	2052.9	2739.6	162.3	149.8	165.7	152.8	157.7
LSD (0.05)	465.0	238.9	-	ns		1.4	ns	4.1	3.7	
CV (s/mean)*100	11.0	9.2	11.7	40.8		0.5	1.5	1.5	1.4	

Seeded: 9/20/00 9/26/00
Harvested: 8/3/01 8/17/01
Crop Year Precip (in 10.6 12.2

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Table 64. 2001 Statewide triticale multi-location test weight, plant height, and grain protein performance.
Exp. TRSW Central Agricultural Research Center, Moccasin, MT.

Pedigree	----- Test Weight -----				Average TestWt	----- Plant Height -----				Average Height	----- Grain Protein -----			Average Protein
	Moccasin	Bozeman	Huntley			Moccasin	Bozeman	Huntley			Moccasin	Bozeman	Huntley	
	lbs/bu	lbs/bu	lbs/bu	lbs/bu	in	in	in	in		%	%	%		
Frostat	51.9	56.1	55.5	54.5	39	43	29	37		17.8	15.0	16.8	16.5	
RAH173-F93	52.1	55.7	54.0	53.9	31	43	23	32		16.1	15.2	16.1	15.8	
K99SRT103	55.8	57.1	56.5	56.5	31	35	24	30		17.3	15.7	16.2	16.4	
K99SRT119	56.9	56.3	55.5	56.2	32	33	22	29		17.8	15.5	15.9	16.4	
Tiber	62.4	63.7	61.2	62.4	29	34	23	29		17.6	16.2	17.5	17.1	
UGO	50.1	52.8	49.9	50.9	28	33	24	28		15.7	14.0	16.8	15.5	
KT941864-5002	52.6	56.4	54.2	54.4	31	41	26	33		17.9	14.5	15.6	16.0	
91T113-C12-5	57.5	57.3	56.3	57.0	33	37	24	31		17.9	15.0	16.0	16.3	
KT940874-8002	56.0	55.0	50.4	53.8	35	37	24	32		16.9	16.0	19.1	17.3	
B0010	49.8	52.2	51.9	51.3	31	35	23	30		17.5	14.4	17.3	16.4	
KT940794-8007	56.1	56.2	53.7	55.3	31	31	23	28		15.6	15.4	17.1	16.0	
RAH371-F93	52.9	52.8		52.9	32	36		34		16.2	14.7		15.5	
KT941776-5002	53.6	57.1		55.4	33	35		34		16.4	15.5		15.9	
KT941256-8004	55.7	56.2		56.0	30	33		32		16.3	15.1		15.7	
92 E005	53.5			53.5	32			32		16.6				
SR 94719	48.7			48.7	34			34		16.4				
KW940393W5001a		55.6	56.6	56.1		36	26	31			14.8	16.8	15.8	
UGO Polish		52.0	52.1	52.1		36	27	32			16.1	17.9	17.0	
KT941256-8006			53.6	53.6			26	26				16.8	16.8	
KT941256-8007			54.3	54.3			20	20				16.4	16.4	
KT941289			53.6	53.6			24	24				15.9	15.9	
Average	54.1	55.8	54.3	54.7	32.0	36.0	24.1	30.7		16.9	15.2	16.8	16.0	
LSD (0.05)	1.6	1.3	3.0		3.6	6.4	ns							
CV (s/mean)*100	1.8	1.4	3.3		6.8	10.6	15.3							

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Table 65. Long-term yield summary of selected winter triticale lines.

Exp. TRSW	Central Agricultural Research Center, Moccasin, MT.				
Entry	Moccasin Fallow99	Moccasin Recrop99	Mocc No-till Recrop00	Moccasin Fallow01	Average Yield
	----- lbs/a -----				
Tiber	3394	2184	2159	2750	2622
92E005	4253	2801	3076	2421	3138
91T113-C12-5	3839	2583	3045	2842	3077
KT941864-5002	4372	3323	3076	2371	3286
KT941776-5002	4299	3835	2986	2498	3405
SR94719	3545	2916	2639	2588	2922
Ugo	4507	3353	2755	2542	3289
RAH173-F93	3999	3126	3341	2588	3264
RAH371-F93	3819	2865	3096	2775	3139
B0010	3851	2987	2812	2587	3059
Almo	4043	2588	3069	-	3233
KT941289	4316	2263	2989	-	3189
SR94721	3431	2487	2449	-	2789
K99SRT119				2654	2654
KT940794-8007				2529	2529
KT940874-8002				2409	2409
KT941256-8004				2493	2493
Nursery Mean	3855.6	2825.8	2885.8	2536.0	