

PROJECT TITLE: Evaluation of agronomic performance of soft white winter wheat near Moccasin, Montana.

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OBJECTIVES:

Evaluate the relative agronomic performance, particularly winter survival and yield, of soft white winter wheat in tilled fallow environment in central Montana.

RESULTS:

Some 2006 soft white winter wheat yields were equal to or greater than Neeley, the hard red yield check variety (Table 1). Lewjain and MAES IMI tolerant development line MTCL0550 had grain yields similar to the Neeley check. It is an indication of a mild winter for winter wheat when the soft white winter wheat grain yields are similar to the hard red winter wheat check. No winter kill was noted in the 2006 soft winter wheat nursery. The IMI tolerant lines developed by MAES have yield levels similar to the varieties developed for the Idaho, Oregon and Washington in central Montana's environment.

Over thirteen years of performance evaluation, Eltan had the highest average yield in a sixteen entry variety trial, but had a mean yield slightly lower than the Neeley check (see Table 2). |

SUMMARY:

Producers in most of area 4, central Montana, are discouraged from growing soft white winter wheat. The soft white winter wheat often experience winter kill and produce inferior yields. Also, marketing the soft white wheat can be an extra challenge.

FUTURE PLANS:

The soft white winter wheat nursery will not be grown in the near future.

Table 1 2006 Soft white winter wheat on tilled fallow variety evaluation at CARC.  
Exp. 3870 Central Agricultural Research Center. Moccasin, Montana.

Cultivar/Line	Entry	Heading date	Plant height	Grain Yield	Test weight	Grain moist.	Protein
		Julian	in	bu/ac	lb/bu	%	%
Lewjain	7	163.0	35.3	<b>68.5**</b>	56.5	11.2	11.8
Neeley	1	159.3	40.8	<b>68.4*</b>	<b>60.3*</b>	10.4	12.0
MTCL0550	16	156.0	33.6	<b>64.8*</b>	<b>60.7*</b>	10.5	11.9
Simon	11	158.0	35.4	60.3	58.3	10.9	11.9
WA7935	13	164.7	33.1	60.3	55.2	12.2	12.3
Masami	12	163.3	32.4	60.2	54.9	10.5	12.1
Eltan	2	158.0	34.8	60.1	57.5	10.9	11.4
Rod	3	164.7	34.3	59.7	53.7	11.4	12.1
Finch	9	163.3	33.1	59.6	56.2	11.6	12.2
Lambert	8	158.7	36.7	59.4	56.8	10.5	12.3
Kmor	5	160.0	33.3	57.2	54.5	10.0	12.4
MTCL0489	14	156.0	33.7	57.2	<b>60.7**</b>	10.7	11.9
MAC-1	4	158.7	36.3	56.8	58.3	10.6	12.5
MTCL0549	15	159.0	34.9	55.8	57.3	10.4	12.7
MacVicar	6	159.0	32.3	55.6	54.5	10.3	13.9
Hubbard	10	160.0	39.0	53.9	58.2	10.3	11.3
Average		160.1	34.9	59.9	57.1	10.8	12.2
C.V. (%)		0.6	2.9	7.0	1.4	4.0	
LSD (0.05)		1.7	1.7	7.0	1.6	0.9	

\*\* indicates highest value within a column

\* indicates values equal to highest value within a column (Fisher's protected LSD).

Seeded: 27-Sep-05 Reduced till fallow.

Soil: Moist Soil: > 24" (gravel) 2" Soil temp: 13 C

Fertilizer: 10+10+10+5 (NPKS) w/seed Topdress urea: 60lbs N

Pest Control: 1.5 pints/ac (bromoxynil + MCPA) 9-May-06.

Table 2 Yield summary of selected soft white winter wheat varieties, 1993-2003  
 Exp. 5007 Central Agricultural Research Center, Moccasin, MT

Varieties	1993 <sup>2/</sup>	1995	1996	1997	1998	1999	2001	2002	2003	2004	2005	2006	average	Neeley
	bu/a													Same Years
Neeley (HRW) <sup>1/</sup>	67	49	49	67	86	58	57	51	37	71	40	68	58.4	
Eltan	73	47	39	73	75	59	58	49	36	76	41	60	57.2	58.4
Kmor	77	47	27	61	74	52	50	51	41	69	38	57	53.7	58.4
MacVicar	76	43	18	57	70	53	47	49	38	67	37	56	50.9	58.4
Lewjain	70	52	32	60	76	54	55	46	38	31	37	69	51.6	58.4
Hill 81	73	42	32	57	78	52	50	48	40	59	38		51.7	57.5
Rod	75	--	--	52	72	54	48	50	36	72	35	60	55.3	60.3
Lambert			31	42	79	50	51	52	36	62	39	59	50.2	58.5
Stephens	74	44	16	49	68	45	51	50	31	33			46.1	59.3
MAC-1							46	45	36	63	34	57	47.0	54.2
Simon										72	37	60	56.5	59.9
Finch										67	39	60	54.9	59.9
Hubbard										69	38	54	53.8	59.9
MTCL0549												56	55.8	68.4
WA7935											42	60	51.0	68.4
MTCL0489 (IMI)											43	57	49.9	68.4
Masami											35	60	47.8	68.4
MTCL0550												65	64.8	68.4
NuSky										63			62.9	71.03
Daws	78	50	41	53	73	50	49	51	39				53.8	57.9
Cashup		47	39	60	75	58	47	48	33				50.9	56.8
Malcom	76	47	14	60	70	47	50	48	31				49.3	57.9
Madsen	70	39	23	47	71	55	49	50	39				49.1	57.9
KW960195p 7005								50	43	54			48.7	53.2
Bruehl							52	44	32				42.6	48.5
Nursery Mean	71	45.1	28.7	55	72.8	53.6	50.4	48.8	36.7	61.9	38.1	59.9	51.8	

<sup>1/</sup> Neeley is used as a hard red winter wheat check.

1994 nursery damaged by blowing soil.

<sup>2/</sup> Neeley was in a different nursery in 1993.

2000 nursery damaged by hail.