

PROJECT TITLE: Evaluation of agronomic performance of winter wheat and spring wheat varieties under no-till fallow near Geraldine, Montana.

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OBJECTIVES:
Evaluate the relative agronomic performance of cereal grain varieties and development lines under no-till fallow environments in central Montana.

RESULTS:
Winter wheat yields were below average for fallow ground in the Geraldine area (Table 1). Marginal stands and hail reduced the yield potential. Dry conditions post seeding reduced stand establishment. Deeper seed placement would probably have enhanced stand establishment based on observations of the surrounding producer's field. Test weights and protein contents were near average. There was both sawfly and Hessian fly damage. However, the hail effect made it impossible to accurately assess the insect damage. Eight of 20 varieties have 3 year mean yields higher than Yellowstone (Table 2).

Spring wheat yields above expected yields with a mean yield of 39.8 bushels per acre (Table 3). Yield potential was much higher at seeding, but dry conditions in June and July reduced the yield potential. There was a low level of sawfly cutting and rep one was infested with wildoats.

SUMMARY:
2007 winter wheat and spring wheat performance was good in the Geraldine area provided a good stand was established and seeded in a timely fashion.

FUTURE PLANS:
These trial will be continued in 2008 provided funding is available.

Table 1 2007 Geraldine winter wheat variety performance on no-till fallow.
Exp 3872 Central Agricultural Research Center. Moccasin, Montana.

Variety	Plant Height	Grain Yield	Test Weight	Protein Content
	in	bu/ac	lb/bu	%
MTS04120	33	60.9	61.1	12.7
Jagalene	32	49.7	62.0	12.6
CDC Falcon	34	46.6	59.8	13.0
Morgan	31	45.9	59.6	12.0
Pryor	32	45.5	58.6	12.5
Genou	30	45.1	60.4	13.0
Hyalite (CL, HWW)	35	45.1	60.7	13.1
Rocky	32	44.2	61.2	12.8
Rampart	31	43.9	59.9	14.2
NuSky (HWW)	35	43.8	61.0	12.7
BigSky	34	43.6	61.4	13.3
MTCL0477	32	43.1	58.2	12.9
Vanguard	32	42.9	60.0	12.9
Wahoo	33	42.8	58.0	12.8
Jerry	34	41.9	59.0	13.8
Norris (CL)	29	41.5	60.6	13.9
Bynum (CL)	35	40.9	60.3	14.0
Ledger	34	40.8	60.3	12.3
MT0495	34	40.8	58.7	13.0
MTS04114 (HWW)	33	40.7	60.5	13.0
Yellowstone	34	40.6	58.9	12.9
Neeley	32	38.9	59.6	14.2
Tiber	33	35.7	60.0	13.1
Promontory	33	34.6	61.3	11.9
Mean	33	43.3	60.0	13.0
C.V. (%)		15.4	0.9	
LSD (0.05)		ns	1.1	

Seed Date 28-Sep-06
 Soil: 2 inch temp: 15 C Moist depth: 40 inches
 Fertilizer: 10-10-10-5 NPKS w/seed Topdress 60 N as urea.
 Harvest Date: 7-Aug-07 Surface soil dry and hard at seeding.

Table 2 2007 Geraldine winter wheat varieties multi-year performance.
Exp 3872 Central Agricultural Research Center. Moccasin, Montana.

Variety	2005	2006	2007	average	Yellowstone Yld same yrs.
	bu/a	bu/a	bu/a	bu/a	bu/a
Yellowstone	49.1	98.1	40.6	62.6	62.6
Jagalene	45.0	99.7	49.7	64.8	62.6
CDC Falcon	55.7	90.9	46.6	64.4	62.6
Morgan	55.3	89.6	45.9	63.6	62.6
Pryor	52.4	92.2	45.5	63.4	62.6
Genou	59.0	86.3	45.1	63.5	62.6
Hyalite (CL, HWW)	55.0	87.4	45.1	62.5	62.6
Rocky	53.5	94.8	44.2	64.2	62.6
Rampart	53.0	85.5	43.9	60.8	62.6
NuSky (HWW)	42.5	79.3	43.8	55.2	62.6
BigSky	44.7	84.7	43.6	57.7	62.6
Vanguard	53.1	80.0	42.9	58.7	62.6
Wahoo	60.4	98.6	42.8	67.3	62.6
Jerry	42.7	84.6	41.9	56.4	62.6
Norris (CL)	52.9	94.3	41.5	62.9	62.6
Bynum (CL)	46.8	88.0	40.9	58.6	62.6
Ledger		93.2	40.8	67.0	69.4
Neeley	50.1	89.7	38.9	59.6	62.6
Tiber	56.2	85.7	35.7	59.2	62.6
Promontory	49.7	89.3	34.6	57.9	62.6
Mean	50.9	90.5	43.3	61.6	

2007 had marginal stand and was hailed prior to harvest.

Table 3 2007 and two year Geraldine spring wheat variety performance on fallow.
Exp 997207 Central Agricultural Research Center. Moccasin, Montana.

Pedigree	ID code	Plant Height cm	2007 Yield bu/a	Test Weight lbs/bu	Protein Content %	Sawfly cut stems 1 to 10	2005 Yield bu/a	2 year Ave. Yld bu/a
Vida	PI642366	70.3	49.5	58.5	15.4	2.0	15.3	32.4
Scholar	PI607557	88.3	44.7	60.3	16.0	2.3	11.0	27.8
Freyr	AGRIPRO3	75.3	44.3	59.7	15.0	2.3		
Westbred 926	WB 926	73.0	42.0	57.4	15.7	1.0	13.2	27.6
Conan	BZ992588	76.0	41.7	59.5	15.2	1.7	13.0	27.3
Agawam	BZ996472	65.0	41.2	61.5	13.9	1.0	15.8	28.5
Choteau	PI633974	69.3	40.3	59.3	15.4	1.7	12.2	26.2
Outlook	PI632252	74.0	39.6	57.9	15.0	2.7	11.4	25.5
Reeder	ND 695	78.3	39.5	59.8	15.3	2.3	12.4	26.0
NorPro	AGRIPRO1	72.7	38.9	59.1	14.9	2.0	9.6	24.2
Corbin	BZ996434	71.0	38.5	59.7	14.7	1.7		
Hank	BZ992322	70.0	37.2	56.2	15.7	1.7	12.3	24.8
Knudsen	AGRIPRO2	70.0	36.6	59.8	14.5	1.0	11.9	24.3
Ernest	PI592761	91.3	35.7	58.8	16.4	1.0	12.4	24.1
Fortuna	CI 13596	89.3	34.0	58.4	16.5	1.7	13.8	23.9
Explorer	PI619086	70.3	33.9	58.9	15.2	1.2	12.2	23.0
McNeal	PI574642	77.3	30.9	57.6	16.2	2.0	13.2	22.1
MT 0414	MT 0414	77.0	40.7	59.3	16.1	2.0		
MT 0415	MT 0415	74.7	45.9	59.2	16.1	2.7		
MT 0515	MT 0515	72.7	40.6	60.8	15.3	1.7		
Mean		75.3	39.79	59.05	15.42	1.78	12.6	
P-value		0	0.0888	0		0.2209		
CV 1		5.955	14.94	0.9817		45.86		
LSD (0.05)		7.412	9.825	1.213		1.345		

Seed Date: 27-Apr-07

Soil: 2 inch temp: 10 Moist Probe depth: 20"

Fertilizer: 10-10-10-5 NPKS w/seed Top dress: 60 N

Harvest Date: 13-Aug-07