Project Title: Off-station spring wheat performance under fallow in central Montana.

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Objective:
Evaluate the performance of spring wheat cultivars in fallow near Geraldine. To fit the cooperators change in systems, the trial was established no-till recrop after winter wheat in a crop-crop-fallow system.

Results:
The 2010 growing season conditions were generally optimal for spring wheat production. Cooler July weather contributed to good spring wheat yields. While Geraldine site has typically been fallow in the past it is now in a winter wheat – spring wheat – fallow system.

While yields were not outstanding, yields were two to three bushels above average (tables 1 and 2). Development line MT 0582 had the high yield at 38.8 bu per acre. An early April seeding date may have help yields, but conditions were not suitable for seeding at that time. Test weights and protein were near average (Tables 3 and 4) and sawfly cutting was significant but not overwhelming (Table 5).

Summary:
The Geraldine environment provides a good evaluation of both yield potential and sawfly tolerance. Vida, a semi-hollow stem line, has been a consistent high yielder at this location for the past few years along with c solid stem lines Choteau, Corbin and ONeal and low sawfly attraction variety Conan. Vida is intermediate in test weight and protein content. The higher protein content varieties generally are lower yielding and that has been the case at Geraldine with AP604CL and Kelby.

Funding Summary:
Expenditure information to be provided by OSP.
No other grant support was provided for this project.

MWBC FY2011 Grant Submission Plans:
It is planned to submit this project for funding consideration in the next fiscal year.

Table 1 2010 Geraldine no-till crop-crop-fallow spring wheat variety performance trial.
Exp 9972 Central Agricultural Research Center. Moccasin, Montana.

Variety	ID code	Entry	Head Date	Plant Height	Grain Yield	Test Weight	Protein Content	Sawfly cutting
			d of Y	cm	bu/a	lbs/bu	%	score
AP604 CL	AGRIPRO8	9		79	24.0	58.5	15.2	7.3
Choteau	PI633974	6		75	32.0	57.1	15.1	2.3
MT 0827	CHOTEAU/MT	18		69	35.0	60.4	14.5	3.7
MT 0832	CHOTEAU/MT	19		71	33.6	57.2	14.3	1.7
Conan	BZ992588	3		74	31.6	59.3	14.9	3.0
Corbin	BZ996434	11		73	35.9	58.2	14.9	2.3
Fortuna	CI 13596	1		100	33.7	59.3	14.7	1.3
Freyr	AGRIPRO3	10		78	24.3	58.4	14.3	17.7
Hank	BZ992322	8		70	24.7	56.9	15.1	12.7
Jedd	BZ9M1044	15		60	27.5	58.9	14.6	9.3
Kelby	AGRIPRO6	12		68	30.1	59.3	15.8	4.0
Kuntz	AGRIPRO7	13		64	20.2	57.4	14	22.0
McNeal	PI574642	2		79	25.6	57.6	14.8	7.7
Mott	NDSW0449	17		73	33.2	58.6	15.4	2.7
MT 0852	MT0249/CHO	20		76	38.8	60.0	14.6	0.7
Oneal	BZ999592	16		72	35.3	59.6	14.5	3.0
Outlook	PI632252	5		73	30.7	56.9	14.1	8.7
Reeder	ND 695	4		77	27.6	59.1	15.2	6.3
Vida	PI642366	7		74	34.9	57.3	13.8	3.3
Volt	ACS52610	14		70	23.3	60.2	13.5	27.7
Mean				73.8	30.1	58.48	14.67	7.37
P-Value					0.00	0.00		0.00
CV1					9.42	1.17		67.6
LSD (0.05)					4.68	1.43		8.23

Seed Date: 21 April 2010 into winter wheat stubble
Fertilizer: Pre Plant 50 N as urea W/Seed : 5.5 +26+0+0 as 11-52-0 Post: 45 N as urea
Soil: 2 inch temp: 12.5 C Moist probe depth: 33 inches
Comment:

Table 2 Multi-year spring wheat variety grain yields near Geraldine.
Exp 9972 Central Agriucultural Research Center. Moccasin, Montana.

Variety	2007	2008	2009	2010	mean	Vida same Yrs
			bu/a			
AP604CL			23.8	24	23.9	33.4
Choteau	40.3	28.3	25.7	32.0	31.6	36.0
Conan	41.7	23.1	23.6	31.6	30.0	36.0
Corbin	38.5	25.5	25.0	35.9	31.2	36.0
Fortuna	34.0	25.3	22.8	33.7	29.0	36.0
Freyr	44.3	20.3	23.1	24.3	28.0	36.0
Hank	37.2	24.8	23.6	24.7	27.6	36.0
Jedd		21.0	23.9	27.5	24.2	31.5
Kelby		15.4	19.4	30.1	21.6	31.5
Kuntz		18.5	21.9	20.2	20.2	31.5
McNeal	30.9	21.7	26.1	25.6	26.1	36.0
ONeal		29.1	28.9	35.3	31.1	31.5
Outlook	39.6	24.3	24.0	30.7	29.7	36.0
Reeder	39.5	26.6	27.3	27.6	30.3	36.0
Vida	**49.5**	**27.7**	**31.9**	**34.9**	**36.0**	**36.0**
Volt		22.0	30.3	23.3	25.2	31.5
Mean	39.79	23.08	25.44	30.18	27.7	

Table 3 Multi-year spring wheat variety test weights near Geraldine.
Exp 9972 Central Agriucultural Research Center. Moccasin, Montana.

Variety	2007	2008	2009	2010	Mean	Vida same Yrs
			lbs/bu			
AP604CL			61.3	58.5	**59.9**	58.8
Choteau	59.3	61.4	59.9	57.1	59.4	59.6
Conan	59.5	61.6	61.0	59.3	60.3	59.6
Corbin	59.7	61.4	60.3	58.2	**59.9**	59.6
Fortuna	58.4	60.8	59.1	59.3	59.4	59.6
Freyr	59.7	61.6	61.3	58.4	**60.2**	59.6
Hank	56.2	60.5	60.0	56.9	58.4	59.6
Jedd	59.8	62.5	61.3	58.9	**60.6**	59.6
Kelby	57.6	61.8	60.6	59.3	**59.8**	59.6
Kuntz	57.9	60.5	60.6	57.4	59.1	59.6
McNeal	57.6	60.6	60.1	57.6	58.9	59.6
Oneal		62.0	61.7	59.6	**61.1**	59.9
Outlook	57.9	60.8	59.0	56.9	58.6	59.6
Reeder	59.8	62.2	60.7	59.1	**60.5**	59.6
Vida	58.5	62.1	60.4	57.3	58.8	59.6
Volt		62.3	62.7	60.2	**61.7**	59.9
Mean	59.05	61.31	60.62	58.48	59.9	

Varieties with multi-year means > Vida are emboden.

Table 4 Multi-Year spring wheat variety protein content near Geraldine.
Exp 9972 Central Agricultural Research Center. Moccasin, Montana.

Variety	2007	2008	2009	2010	Mean	Vida Same Yrs
	%	%	%	%		
AP604CL			14.1	15.2	14.7	13.6
Choteau	15.4	11.8	14.3	15.1	14.2	13.6
Conan	15.2	12.6	15.3	14.9	14.5	13.6
Corbin	14.7	11.5	14.3	14.9	13.9	13.6
Fortuna	16.5	11.4	14.5	14.7	14.3	13.6
Freyr	15.0	12.4	14.4	14.3	14.0	13.6
Hank	15.7	11.1	13.6	15.1	13.9	13.6
Jedd		10.5	13.6	14.6	12.9	13.0
Kelby		13.0	16.0	15.8	14.9	13.0
Kuntz		11.3	13.4	14.0	12.9	13.0
McNeal	16.2	12.0	14.7	14.8	14.4	13.6
Oneal		10.8	13.6	14.5	13.0	13.0
Outlook	15.0	11.8	14.8	14.1	13.9	13.6
Reeder	15.3	11.7	14.0	15.2	14.1	13.6
Vida	15.4	11.7	13.4	13.8	13.6	13.6
Volt		11.9	13.5	13.5	13.0	13.0
Mean	15.42	11.6	14.3	14.7	14.0	

Table 5 Multi-Year spring wheat variety sawfly stem cutting near Geraldine.
Exp 9972 Central Agricultural Research Center. Moccasin, Montana.

Variety	2007	2008	2009	2010	Mean	Vida Same Yrs
	#	#	#	#	#	#
AP604CL			2.0	7.3	4.7	1.65
Choteau	1.7	15	0.0	2.3	4.8	4.1
Conan	1.7	10	0.0	3.0	3.7	4.1
Corbin	1.7	11	0.3	2.3	3.9	4.1
Fortuna	1.7	15	0.7	1.3	4.6	4.1
Freyr	2.3	53	5.0	17.7	19.6	4.1
Hank	1.7	53	1.3	12.7	17.3	4.1
Jedd		38	1.3	9.3	16.3	4.7
Kelby		52	2.0	4.0	19.2	4.7
Kuntz		60	4.3	22.0	28.8	4.7
McNeal	2.0	36	1.3	7.7	11.8	4.1
Oneal		15	0.7	3.0	6.1	4.7
Outlook	2.7	30	1.0	8.7	10.6	4.1
Reeder	2.3	30	2.7	6.3	10.4	4.1
Vida	2.0	11	0.0	3.3	4.1	4.1
Volt		51	4.0	27.7	27.4	4.7
Mean	1.345	33.32	1.50	7.37		

= cut stems per ten foot of row.