

PROJECT TITLE: Evaluation of agronomic performance of winter wheat varieties under fallow near Geraldine and Winifred.

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OBJECTIVES:

Evaluate the agronomic performance of winter wheat varieties under fallow near Geraldine and Winifred.

RESULTS:

Winter wheat yields were extremely high at Geraldine location with a site mean yield of 90.5 bushels per acre (Table 1). The yields reflected the ample plant available water at this site. Precipitation was near average. Plus winter wheat roots may have been able to intercept some later moving ground water as this site is on an intermediate slope up hill from a saline seep area. Experimental line MT02113 had the high yield at both the Geraldine and Winifred location (Tables 1 & 2). Jagalene had the heaviest test weights with 65.5 and 65.2 lbs per bushel at Geraldine and Winifred, respectively. Protein levels were a little low and suggest had the N fertilizer rates been slightly higher, yield may have been higher.

SUMMARY:

The high yields on these two deep soil sites indicate why crop fallow systems merit consideration at these locations. Particularly, the Winifred site where average precipitation is around 12 inches and soils are often > than 6 feet deep. These two sites show that there are several varieties and development lines with high yield potentials.

FUTURE PLANS:

Winter wheat seedings will continue at these two locations.

Table 1 2006 No-Till on fallow winter wheat variety evaluation near Geraldine.
Exp. 3872 Central Agricultural Research Center. Moccasin, Montana.

Grain Cultivar/Line	Entry	Plant height	Grain Yield	Test weight	Grain Protein	Lodging Score
in	#	%	bu/ac	lb/bu		0 to 5
MT02113	24	40.9	100.4**	63.0	12.4	0
Jagalene	11	37.8	99.7*	65.5**	11.2	0.5
Wahoo	18	39.0	98.6*	64.0	11.5	0.5
Yellowstone	15	41.3	98.1*	62.9	12.4	0
MT01148	17	43.3	98.1*	64.4	13.4	0
Rocky	5	42.9	94.8*	65.1*	13.4	2.5
Norris (IMI)	20	41.3	94.3*	64.3	12.0	0
Ledger	22	35.0	93.2*	65.0*	11.6	0.5
Paul	13	36.6	92.4*	63.6	13.1	0.5
Pryor	9	37.0	92.2*	64.7	11.5	0
CDC Falcon	7	37.8	90.9*	64.3	10.8	0
Neeley	2	40.6	89.7	64.3	11.6	0
Morgan	4	43.3	89.6	63.5	12.3	0
Promontory	8	40.2	89.3	64.9*	11.7	0
Millenium	23	43.7	88.4	64.1	11.8	0
Bynum (IMI)	21	38.6	88.0	64.3	13.0	1
Hyalite (IMI, HWW)	19	37.8	87.4	63.8	13.2	0
Genou	14	39.0	86.3	64.7	11.8	2
Tiber	3	44.1	85.7	64.0	12.8	0
Rampart	1	39.0	85.5	64.1	11.8	1
BigSky	10	41.7	84.7	64.8	13.4	0
Jerry	16	42.5	84.6	62.9	12.9	0
Vanguard	6	40.6	80.0	64.4	12.0	1
NuSky (HWW)	12	44.1	79.3	63.0	10.0	0.5
Average		40.3	90.5	64.1	12.2	0.56
C.V. (%)			6.5	0.5		
LSD (0.05)			9.6	0.7		

** indicates highest value within a column

*indicates values equal to highest value within a column. Fisher's protected LSD (0.05).

Seeded: 23-Sep-2005 No-till recrop on barley

Soil: Moist soil: 40 " 2 inch temp: 15 C

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

Harvest: 19-Jul-06 Lodging was minimal 0= none 5 = severe

Table 2 2006 No-Till fallow winter wheat variety evaluation near Winifred.
Exp. 3873 Central Agricultural Research Center, Moccasin, Montana.

Grain Cultivar/Line	Entry	Plant height	Grain Yield	Test weight	Grain Protein
%	#	in	bu/ac	lb/bu	%
MT02113	24	41.6	68.8**	61.5	10.6
Wahoo	18	23.3	65.2*	62.9	11.2
Millenium	23	38.0	61.9	63.7	11.8
MT01148	17	44.5	61.5	62.2	11.8
Yellowstone	15	35.1	60.7	62.4	10.2
Tiber	3	43.3	60.0	63.6	10.4
Rocky	5	44.5	59.8	64.4*	10.7
Pryor	9	35.9	59.8	60.9	12.0
Hyalite (IMI, HWW)	19	39.2	59.5	64.0	10.0
Ledger	22	37.6	59.4	63.5	11.6
Morgan	4	40.0	58.2	61.9	12.6
Norris (IMI)	20	37.6	58.1	64.4*	9.9
Neeley	2	41.6	57.1	62.4	12.5
Paul	13	34.3	57.0	61.3	10.8
Genou	14	36.7	56.6	63.8	12.6
BigSky	10	42.0	55.7	63.6	11.2
NuSky (HWW)	12	38.8	55.4	62.9	10.6
Jagalene	11	33.9	54.6	65.2**	12.3
Jerry	16	38.8	54.2	61.8	12.3
Bynum (IMI)	21	40.0	53.2	63.8	12.8
Rampart	1	39.2	52.8	62.7	13.5
Vanguard	6	37.1	52.5	62.9	11.4
CDC Falcon	7	31.4	52.1	63.7	11.8
Promontory	8	34.7	51.4	64.4*	11.0
Average		37.9	57.7	63.1	11.5
C.V. (%)			6.4	0.9	
LSD (0.05)			6.1	1.1	

** = indicates highest value within a column

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

Seeded: 29-Sep-05 No-Till on fallow after spring wheat.

Soil: Moist soil depth: 36" 2 inch soil temp: 12 C

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