TABLE OF CONTENTS

INTRODUCTION

Content:

This report is intended to serve as a popularized 2008 summary of "primary" on-going cereal and oilseed crop variety investigations traditionally conducted on-station by the Agronomy Division at Northern Agricultural Research Center. These data represent approximately 19 percent of NARC-Agronomy's total research project effort on-station at Havre, and approximately 22 percent of the cereal and oilseed variety evaluation effort on-station. The remaining 78 percent of the cereal and oilseed variety evaluation effort not reported here is associated with larger nurseries featuring early generation or other unnamed experimental materials not of general interest to the public. Long-term data summaries reported here are limited to the most recent ten years, largely due to need for report brevity and the fact that most varieties have approximately a 10-year life span before they are replaced in common use with newer materials having superior production characteristics. However, variety performance data has been continuously collected and maintained at the Havre station for 93 years beginning in 1916.

Detailed data pertaining to multiple performance characters, along with associated climatic and management inputs are presented for 2008. Abridged, multi-year summaries for each trial are limited to two crop characters. Individuals desiring detailed data for other than the current year may contact the research center or refer to previous editions of this report for the year(s) of interest.

2008 Data:

It should be noted that 2008 data tables in this report represent varietal performance for a single crop year at a single location only, and thus cannot be considered representative of performance expected when differing conditions due to location, year and management are imposed. Therefore, by itself, such 2008 data shall not constitute in any form a recommendation for or against any entry or practice included.

Multi-Year Summary Data:

Use of a "Comparable Average" provides a mechanism for "estimating" the performance of varieties over a period of time longer than that for which actual data is available for them. This is accomplished by comparing the performance of a "variety of interest" for the years it was actually tested with that of a designated long-term "check" or reference variety grown in the same trial in the same years. The performance of the variety is then expressed as a percent of the check variety's performance. This actual percentage or index is then applied to the actual long-term performance of the check to estimate the performance of the variety of interest had it been grown over the same long term. The reliability of comparable average figures improves with increasing years of actual evaluation. For this reason, no entries with less than three years actual data have been included in long-term summaries.

Other References:

It is intended that this report be used as a supplement to variety performance summaries prepared by MSU's Plant Science and Plant Pathology Department on statewide evaluations by MSU-Montana Agricultural Experiment Station:

Winter Wheat Varieties, Extension Service 2B 1098 (Revised February-March annually)
Spring Wheat Varieties, Extension Service 2B 1093 (Revised February-March annually)
Barley Varieties, Extension Service 2B 1094 (Revised February-March annually)

These summaries include performance data, descriptions, quality assessments, disease and insect considerations, cropping district recommendations, cultural practices, and general crop production management information. These publications are available from MSU-Extension Service offices and can further be accessed via the Internet at

http://plantsciences.montana.edu/crops

Summary of climatic data by months for the 2007-2008 crop year (September to August) and averages for the period 1916-2008 at the Northern Agricultural Research Center, Havre, Montana.

Month Year	Sep 2007	Oct 2007	Nov 2007	Dec 2007	Jan 2008	Feb 2008	Mar 2008	Apr 2008	May 2008	Jun 2008	Jul 2008	Aug 2008	Crop Year
Precipitation (inches)													**Total**
Current Year	1.76	0.26	0.07	0.31	0.17	0.69	0.12	0.35	3.01	3.57	1.16	0.74	12.21
93-Year Average (1916 to 2007-08)	1.15	0.66	0.42	0.44	0.43	0.33	0.54	0.97	1.78	2.57	1.42	1.19	11.89
Mean Temperature (^{o}F)													**Average**
Current Year	57.3	48.0	33.6	21.1	18.2	20.6	34.6	39.7	53.1	60.4	69.8	68.6	43.7
93-Year Average (1916 to 2007-08)	56.1	45.9	30.0	19.7	15.3	20.0	30.0	43.6	54.1	61.8	69.2	67.3	42.8

Last killing frost in spring*

2008 _____ **May 11th (27°)**
Ave. 1916-2008 _____ **May 13th**

First killing frost in fall*

2008 _____ **October 9th (21°)**
Ave. 1916-2008 _____ **September 19th**

Frost free period

2008 _____ **151 days**
Ave. 1916-2008 _____ **129 days**

Growing degree days (base 50)

May 1-Oct 31, 2008 _____ **2220.5**
Ave. 1951-2008 _____ **2384.8**

Maximum summer temperature _____ **100° on August 8th**
Minimum winter temperature _____ **-29° on January 29th**

*In this summary 32^{o} is considered a killing frost.

TABLE 1. Intrastate Winter Wheat Cultivar Evaluation Nursery Grown On-Station Under No-Till Dryland Fallow Conditions. Northern Agricultural Research Center. Havre, Montana. 2008. (Exp# 08-3502-WW)

ID	CULTIVAR or SELECTION	STAND %	1/ HEAD DATE	PLNT HT Inches	2/ YIELD Bu/Ac	MOISTURE %	TEST WT Lbs/Bu	3/ PROTEIN %	4/ SAWFLY %
MT0495	MT9640/NB1133	99.1	167.0	34.7	75.7	7.9	57.8	15.0	33.3
MTS0531	L'Govskaya 167//Rmp//MT94	98.4	166.7	32.3	75.4	8.6	60.7	13.9	11.7
MTS04114	L'Govskaya 167/Rmp//MT940	100.0	166.3	33.0	74.7	8.5	60.6	14.7	13.3
MT0552	N95L159/CDC Clair	97.8	163.3	32.8	73.5	8.2	60.5	15.0	35.0
PI619098	WAHOO	99.4	162.3	34.5	73.5	8.0	58.4	14.8	35.0
MTS0532	L'Govskaya 167/Rmp//MT940	99.4	166.7	32.7	73.3	8.6	60.4	14.4	11.7
WENDY	WENDY	97.5	160.3	29.7	72.3	8.3	62.3	14.3	38.3
MT06102	MT9409/W94-137	97.8	164.0	34.0	71.6	8.4	61.1	14.6	18.3
MT06103	MT9409/W94-137	98.1	165.0	35.1	70.2	8.5	60.3	14.8	15.0
MT00159	YELLOWSTONE	99.7	168.7	36.0	69.8	7.8	57.5	15.4	18.3
MTW06118	KS96HW114/MTW9727	99.1	168.3	35.5	68.8	8.3	60.5	13.9	35.0
SD97W609	ALICE	98.8	161.7	28.9	68.6	8.4	62.4	14.1	26.7
S94-4	CDC FALCON	98.7	167.0	30.9	68.2	8.3	60.2	14.2	36.7
JAGALENE	JAGALENE	99.4	164.3	31.6	68.2	8.5	62.7	14.4	38.3
BZ96-919	PRYOR	98.7	169.0	33.8	68.0	8.1	59.4	14.4	13.3
SD98102	DARRELL	98.7	163.7	33.9	67.4	8.3	60.6	14.6	35.0
MTCL0306	HYALITE	99.1	163.0	34.3	67.3	8.4	60.4	14.2	30.0
98X43515	HAWKEN	98.4	160.3	30.7	67.2	8.2	60.0	15.0	23.3
CO0016	RIPPER	99.7	159.7	29.5	67.0	8.2	60.4	14.7	41.7
BILLBRWN	Bill Brown	98.5	161.0	31.1	66.9	8.6	61.0	13.6	26.7
PI555458	PROMONTORY	96.6	168.3	34.2	66.5	8.4	61.5	13.5	28.3
MTS0713	MT9524/G14048//Rampart	99.4	167.0	32.3	66.4	8.2	57.5	16.0	8.3
BZ022051	BZ9W02-2051	97.5	168.3	34.6	66.0	8.3	59.3	15.3	41.7
BZ022060	CARTER	98.2	168.0	32.1	65.8	8.0	59.4	15.7	10.0
DH001819	DH00-18-196	98.8	170.7	33.0	65.4	8.2	59.8	14.1	28.3
BOND	BOND CL	98.1	160.3	33.3	65.2	8.3	59.7	13.4	30.0
MTCL0316	NORRIS	98.5	162.7	34.7	64.6	8.0	60.3	14.5	23.3
CI 17879	ROCKY	100.0	165.7	36.9	64.4	8.2	59.9	14.5	13.3
MTS04120	L'Govskaya 167/Rampart	99.7	166.7	34.1	64.0	8.4	59.4	15.1	6.7
MT0686	MT9523/NE94653	99.4	167.3	37.7	63.8	8.1	57.7	15.3	21.7
MTS0705	93X312E14/NuHorizon	99.4	169.0	37.7	63.1	8.4	59.0	15.0	6.7
AP503CL2	AP503 CL2	97.5	164.0	31.5	62.5	8.2	60.7	15.2	23.3
MTS0608	Jerry/2*Rampart	98.4	168.0	38.6	61.2	8.2	59.3	15.3	10.0
MTCL0318	BYNUM	98.8	167.0	36.3	61.1	8.4	61.4	14.6	13.3
MTS0031	GENOU	97.8	168.3	37.6	61.0	8.2	58.7	15.8	11.7
CI 17860	NEELEY	99.1	168.7	38.1	60.8	7.9	57.1	15.6	23.3
AP50W	NuDAKOTA	99.7	168.7	38.1	60.7	8.4	59.1	15.0	35.0
ND9257	JERRY	98.2	170.0	39.6	59.9	7.9	56.7	15.8	21.7
PI586806	NUWEST	99.4	168.7	37.1	59.6	8.0	58.1	15.4	28.3
MT0688	N95L164/Morgan	100.0	168.3	34.7	59.2	8.0	57.6	15.0	41.7
PI517194	TIBER	100.0	169.3	38.5	59.1	8.3	60.2	15.3	26.7
MT0641	MT9417/Ogallala	99.7	168.0	33.9	58.9	8.0	57.1	15.1	28.3
MTW9441	NuSKY	99.1	169.3	36.2	58.3	8.2	58.3	15.3	33.3

TABLE 1. **Intrastate Winter Wheat Cultivar Evaluation Nursery Grown On-Station Under No-Till Dryland Fallow**
Continued **Conditions. Northern Agricultural Research Center. Havre, Montana. 2008.**
(Exp# 08-3502-WW)

ID	CULTIVAR or SELECTION	STAND %	1/ HEAD DATE	PLNT HT Inches	2/ YIELD Bu/Ac	MOISTURE %	TEST WT Lbs/Bu	3/ PROTEIN %	4/ SAWFLY %
BZ96-788	LEDGER	98.7	166.3	31.7	57.9	8.3	60.1	13.9	46.7
WA8023	WA8023	97.5	173.3	34.3	57.5	7.5	54.8	14.9	6.7
MTS0633	XNH1013/MTW9532//MT9514	98.5	170.0	36.5	56.3	8.1	59.4	15.3	5.0
PI593891	VANGUARD	98.8	169.7	38.6	53.8	7.9	58.4	17.0	13.3
PI593889	RAMPART	98.8	168.0	35.4	53.7	8.0	59.1	15.7	13.3
DH993710	DH99-37-100	99.1	169.7	40.9	53.3	7.9	56.4	15.9	23.3
EXPERIMENTAL MEANS		98.8	166.5	34.6	64.9	8.2	59.5	14.9	23.7
LSD (0.05)		2.5	2.1	2.7	7.7	0.3	2.3	-	14.7
C.V.2: (S of MEAN / MEAN)*100		0.9	0.5	2.8	4.3	1.5	1.4	-	22.1

1/ No. of Days from January 1 (167 = June 15).
2/ Volumetric yields are based on plot weights adjusted to uniform 12 percent grain moisture and 60 lbs/bu as the standard test weight for wheat.
3/ Protein values are adjusted to 12 percent grain moisture.
4/ Sawfly rating is reported as the percentage of cut stems.

Site Resource & Management Data: (Exp# 08-3502-WW)							
Field	A-5-4		SaltHaz(MMHOS/cm) 6-24	n/a		Dry Surf Soil (in.) @ Plnt'g	0.25
Quarter	NW		S (ppm) 0-24	80		2" Soil Temp (^{o}F) @ Plnt'g	68
Section	33		Zn (ppm) 0-6	0.6		4" Soil Temp (^{o}F) @ Plnt'g	64
Township	32N		Fe (ppm) 0-6	6.8		Fertilizer Formulation	Gran Blend
Range	15E		Mn (ppm) 0-6	3.38		Fertilizer Placement	Bnd at Plntg
Latitude	N48 29.462'		Cu (ppm) 0-6	1.14		Fert. Rate (lbs/ac) N	70
Longitude	W109 47.912'		CEC 0-6	35.3		Fert. Rate (lbs/ac) P2O5	40
Soil Series	Joplin CLm		Soil Texture 0-6	CL		Fert. Rate (lbs/ac) K2O	25
pH 0-6	8.2		Soil Texture 6-24	CL		Herbicide App. Date	5/19
Org.Matter (%) 0-6	1		Soil Texture 24-36	CL		Herbicide Product	Bronate Adv
N (lbs/ac) 0-6	55		Soil Texture 36-48	CL		Herbicide Rate (/ac)	20 oz
N (lbs/ac) 6-24	84		Init PAW (in.) 0-6"	1.08		Precip (in.) Plnt'g-Harvest	8.09
N (lbs/ac) 24-36	68		Init PAW (in.) 6-24"	3.64		Precip (>.1) Plnt'g-Harvest	7.51
N (lbs/ac) 36-48	68		Init PAW (in.) 24-36"	2.32		Harvest Date	8/6
N (lbs/ac) 0-48	275		Init PAW (in.) 36-48"	2.21		Rooting Depth (in.)	35"
P (ppm) Olsen 0-6	33		Init PAW (in.) 0-48"	9.26		Post PAW (in.) 0-6"	0.59
K (ppm) 0-6	165		Cropping System	NT-ChmFlw		Post PAW (in.) 6-24"	3.14
Ca (ppm)	6210		Previous Crop	SW		Post PAW (in.) 24-36"	1.74
Mg (ppm) 0-6	452		Planting Date	9/21		Post PAW (in.) 36-48"	1.64
Na (ppm) 0-6	17		Planting Depth (in.)	1.50		Post PAW (in.) 0-48"	7.11
SaltHaz(MMHOS/cm)0-6	0.38		Moist Soil Depth @ Plnt'g	48+		Precip (>.1) Hvst-Post	0

TABLE 2. **Ten-Year Yield Summary on Selected Entries from Dryland Intrastate Winter Wheat Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (Exp# 3502-WW)**

2/ VARIETY or SELECTION		No. of YEARS TESTED	1/ YIELD (Bushels Per Acre) 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK YIELD 3/	**10-YR COMP. AVE. YIELD 4/**
BOND	BOND (CL++)	4							74.1	57.3	54.4	65.2	62.7	116.0	**56.2**
PI619098	WAHOO (++)	7				39.8	28.5	72.8	54.7	69.0	54.4	73.5	56.1	115.2	**55.8**
MT00159	YELLOWSTONE (++)	7				39.6	30.2	70.3	58.7	65.6	58.0	69.8	56.0	115.1	**55.7**
S94-4	CDC FALCON (P+)	9		66.0	26.4	38.9	30.4	69.3	62.3	58.9	61.4	68.2	53.5	113.3	**54.9**
BZ9W96-919	PRYOR (P+)	9		71.0	23.6	39.0	37.7	73.1	63.6	57.5	47.8	68.0	53.5	113.2	**54.8**
MTCL0316	NORRIS (P, CL++)	4							62.8	54.0	56.0	64.6	59.4	109.7	**53.1**
BZ96-788	LEDGER (P+)	6					32.3	65.2	69.6	52.5	61.1	57.9	56.4	109.6	**53.1**
BZ022060	CARTER (P++)	4							63.1	48.3	57.2	65.8	58.6	108.3	**52.4**
GM10001	NUFRONTIER (HW, P+)	7		63.5	22.7	35.3	34.5	69.7	58.4	54.6			48.4	108.0	**52.3**
MT9426	PAUL	8	70.0	65.4	21.8	33.6	33.3	65.0	54.8	57.8			50.2	107.8	**52.2**
MTS0031	GENOU (++) (sawfly res)	7				32.6	28.7	68.7	63.8	54.7	57.0	61.0	52.4	107.5	**52.1**
CI 17879	ROCKY (P)	10	57.4	62.7	25.3	35.6	27.6	74.7	59.9	61.4	49.9	64.4	51.9	107.1	**51.9**
MTCL0306	HYALITE (P, CL++)	4							53.5	53.2	56.4	67.3	57.6	106.5	**51.6**
AP50W	NuDAKOTA	3								57.1	59.5	60.7	59.1	105.9	**51.3**
PI555458	PROMONTORY	10	78.3	59.1	22.9	31.6	30.1	66.2	45.9	53.9	50.7	66.5	50.5	104.3	**50.5**
JAGALENE	JAGALENE (P+)	6					22.5	68.0	58.4	50.6	54.4	68.2	53.7	104.3	**50.5**
MTW9441	NUSKY (HW)	10	61.1	59.7	25.3	42.5	28.1	63.4	49.4	56.8	54.0	58.3	49.9	103.0	**49.9**
PI586806	NUWEST (HW, ++)	10	62.3	57.9	25.2	40.5	24.2	63.9	55.2	58.5	46.8	59.6	49.4	102.0	**49.4**
CI 17860	NEELEY	10	64.6	69.0	19.9	34.4	30.3	65.6	44.6	53.6	49.8	60.8	49.3	101.7	**49.3**
MT9432	BIGSKY (++)	9	65.6	54.5	21.1	32.5	29.6	64.3	49.0	58.6	53.7		47.7	100.9	**48.9**
PI517194	TIBER	10	59.1	61.8	22.5	32.1	26.8	65.5	49.1	55.9	52.3	59.1	48.4	100.0	**48.4**
PI593889	RAMPART (sawfly res)	10	51.9	55.8	22.4	36.8	32.4	63.2	60.6	49.0	55.3	53.7	48.1	99.3	**48.1**
ND9257	JERRY	8	49.1			42.9	25.5	60.6	48.6	55.9	52.9	59.9	49.4	98.9	**47.9**
PI593891	VANGUARD (sawfly res)	10	48.7	52.4	22.5	30.8	30.8	61.7	65.3	51.2	57.5	53.8	47.5	98.0	**47.5**
MTCL0318	BYNUM (P, CL++) (sf res)	4							49.9	47.7	53.5	61.1	53.0	98.0	**47.5**
PI599336	MORGAN (P+)	9	59.5	56.3	20.7	37.5	26.8	58.1	44.0	56.0	53.2		45.8	96.9	**46.9**
MEANS (For Entries Listed)			60.6	61.1	23.0	36.4	29.5	66.5	56.6	55.9	54.7	63.1			**51.3**
April-July Precip. (in.)			8.57	6.01	4.81	8.87	7.07	8.64	7.37	5.71	7.43	8.09	7.26		
Total Annual Precip. (in.)			14.30	10.27	8.83	13.29	11.54	14.43	11.87	10.29	12.42	12.21	11.95		
Soil NO3 (lbs.) to SD at Planting			Pndg	Pndg	Pndg	110	150	418	138	390	416	275	271		
SD (Sampling Depth in Inches)			Pndg	Pndg	Pndg	48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70	70	70	70	70	70	70	70	70	70		
	(# P_2O_5)		40	40	40	40	40	40	40	40	40	40	40		
	(# K_2O)		25	25	25	25	25	25	25	25	25	25	25		

Long-term check variety is Tiber.

1/ See MCES Bulletin 1098 or the Plant Sciences & Plant Pathology website at http://plantsciences.montana.edu/ for evaluation of other important variety performance characteristics to include protein, quality, disease resistance, etc. before making cultivar selecton decisions.

2/ P = Private Variety, + = Protected Variety, ++ = PVP Title 5 or Title 5 Pending, HW = Hard White Wheat, CL = Clearfield Line.

3/ Percent of Tiber yield or test weight for the same data years as those in which a given entry was tested.

4/ 10-Yr Comparable Average = (x/y) * z where x = average yield of a given entry for years tested, y = average yield for Tiber for the same years, and z = 10-Yr average yield for the check variety Tiber.

TABLE 3. **Ten-Year Test Weight Summary on Selected Entries from Dryland Intrastate Winter Wheat Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (Exp# 3502-WW)**

2/ VARIETY or SELECTION		No. of YEARS TESTED	1/ TEST WEIGHT (Pounds Per Bushel) 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK TEST WT 3/	**10-YR COMP. AVE. TEST WT 4/**
JAGALENE	JAGALENE (P+)	6					60.7	62.4	62.1	64.23	61.70	62.73	62.3	102.4	**62.4**
MTCL0316	NORRIS (P, CL++)	4							63.2	63.53	61.27	60.27	62.1	101.8	**62.0**
PI555458	PROMONTORY	10	64.0	62.6	61.0	59.9	61.4	60.9	61.3	64.10	61.17	61.53	61.8	101.4	**61.8**
CI 17879	ROCKY (P)	10	62.1	62.4	60.0	59.7	62.1	62.4	61.6	65.37	61.27	59.90	61.7	101.2	**61.7**
GM10001	NUFRONTIER (HW, P+)	8		63.6	61.3	57.7	62.1	62.3	60.8	63.90			61.7	100.9	**61.5**
BZ96-788	LEDGER (P+)	6					61.4	60.8	62.2	63.20	60.63	60.10	61.4	100.9	**61.5**
MTCL0318	BYNUM (P, CL++) (sf res)	4							61.5	62.87	60.17	61.40	61.5	100.8	**61.5**
BOND	BOND (CL++)	4							61.4	63.80	60.43	59.73	61.3	100.6	**61.3**
MTCL0306	HYALITE (P, CL++)	4							61.0	63.17	60.47	60.37	61.2	100.5	**61.2**
PI517194	TIBER	10	61.5	61.3	60.7	60.7	61.7	59.7	61.0	62.63	60.00	60.20	60.9	100.0	**60.9**
MT9432	BIGSKY (++)	9	62.7	61.3	60.8	60.9	61.3	58.5	59.9	63.13	59.30		60.9	99.7	**60.8**
BZ022060	CARTER (P++)	4							62.0	62.03	59.10	59.43	60.6	99.5	**60.6**
MTW9441	NUSKY (HW)	10	61.3	61.8	60.3	60.0	60.7	59.3	60.3	62.63	59.53	58.33	60.4	99.1	**60.4**
PI586806	NUWEST (HW, ++)	10	61.4	61.7	59.9	60.0	60.2	60.0	60.3	63.13	59.23	58.10	60.4	99.1	**60.4**
AP50W	NuDAKOTA	3								62.57	59.3	59.07	60.3	99.0	**60.3**
MTS0031	GENOU (++) (sawfly res)	7				58.4	61.3	59.7	60.9	62.53	59.67	58.67	60.2	98.9	**60.2**
S94-4	CDC FALCON (P+)	9		61.5	57.4	57.7	59.8	60.7	60.3	63.07	59.00	60.23	60.0	98.5	**60.0**
PI593891	VANGUARD (sawfly res)	10	60.6	60.1	58.6	58.1	61.0	60.0	61.2	62.03	59.33	58.37	59.9	98.3	**59.9**
CI 17860	NEELEY	10	62.5	61.7	58.2	57.0	61.2	59.2	60.2	62.33	59.17	57.10	59.9	98.2	**59.9**
PI593889	RAMPART (sawfly res)	10	60.8	59.8	58.3	58.8	61.1	59.1	60.5	62.50	58.57	59.07	59.9	98.2	**59.9**
BZ9W96-919	PRYOR (P+)	9		61.8	59.1	58.8	61.9	58.4	59.3	62.07	57.43	59.37	59.8	98.2	**59.9**
PI599336	MORGAN (P+)	9	61.5	60.8	59.4	57.9	60.3	58.7	57.9	61.90	58.23		59.6	97.7	**59.5**
PI619098	WAHOO (++)	7				57.5	60.6	59.5	59.0	62.27	58.63	58.37	59.4	97.6	**59.5**
MT00159	YELLOWSTONE (++)	7				59.2	60.0	57.9	59.4	62.20	58.27	57.50	59.2	97.3	**59.3**
ND9257	JERRY	8	61.1			57.7	60.5	58.8	59.3	62.13	58.00	56.73	59.3	97.3	**59.3**
MT9426	PAUL	8	61.5	60.6	57.8	57.9	61.2	57.0	58.1	61.77			59.5	97.3	**59.3**
MEANS (For Entries Listed)			61.8	61.5	59.5	58.8	61.0	59.8	60.6	62.9	59.6	59.4			**60.6**
April-July Precip. (in.)			8.57	6.01	4.81	8.87	7.07	8.64	7.37	5.71	7.43	8.09	7.26		
Total Annual Precip. (in.)			14.30	10.27	8.83	13.29	11.54	14.43	11.87	10.29	12.42	12.21	11.95		
Soil NO3 (lbs.) to SD at Planting			Pndg	Pndg	Pndg	110	150	418	138	390	416	275	271		
SD (Sampling Depth in Inches)			Pndg	Pndg	Pndg	48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70	70	70	70	70	70	70	70	70	70		
	(# P_2O_5)		40	40	40	40	40	40	40	40	40	40	40		
	(# K_2O)		25	25	25	25	25	25	25	25	25	25	25		

Long-term check variety is Tiber.

1/ See MCES Bulletin 1098 or the Plant Sciences & Plant Pathology website at http://plantsciences.montana.edu/ for evaluation of other important variety performance characteristics to include protein, quality, disease resistance, etc. before making cultivar selecton decisions.

2/ P = Private Variety, + = Protected Variety, ++ = PVP Title 5 or Title 5 Pending, HW = Hard White Wheat, CL = Clearfield Line.

3/ Percent of Tiber yield or test weight for the same data years as those in which a given entry was tested.

4/ 10-Yr Comparable Average = (x/y) * z where x = average test weight of a given entry for years tested, y = average test weight for Tiber for the same years, and z = 10-Yr average test weight for the check variety Tiber.

TABLE 4. Advanced Yield Spring Wheat Cultivar Evaluation Nursery Grown On-Station Under No-Till Dryland Fallow Conditions. Northern Agricultural Research Center. Havre, Montana. 2008. (Exp# 08-3102-SW)

ID	CULTIVAR or SELECTION	STAND %	1/ HEAD DATE	PLNT HT Inches	2/ YIELD Bu/Ac	MOISTURE %	TEST WT Lbs/Bu	3/ PROTEIN %	4/ SAWFLY %
MT 0744	MT0223/MT0266	99.1	181.3	34.2	59.5	9.0	61.0	15.8	48.3
PI642366	VIDA	99.4	183.3	31.0	55.3	9.0	58.6	14.9	6.7
BZ902413	CONAN/AGAWAM	100.0	178.7	32.6	55.3	9.0	59.0	15.4	10.0
MT 0755	MT0220/MT0266	100.0	177.7	31.8	53.6	8.3	57.0	15.8	58.3
PF906409	HANK*6/CHOTEAU	95.7	181.3	28.8	52.9	8.6	57.3	16.5	36.7
BZ9M1024	TRIANGLE*3/TEAL11-A	98.7	180.0	31.2	52.6	8.5	56.1	16.0	25.0
BZ999592	ONEAL	98.8	182.7	32.1	52.2	8.8	57.8	15.9	11.7
PF906407	HANK*6/CHOTEAU	97.2	180.7	29.0	52.0	8.5	56.1	15.7	28.3
MT 0749	MT0220/MT0248	99.7	180.7	29.9	52.0	8.4	58.3	15.8	65.0
PF906408	HANK*6/CHOTEAU	95.3	182.3	29.6	51.5	8.5	56.5	16.0	40.0
MT 0751	MT0220/MT0266	99.7	179.3	31.3	51.5	8.3	57.3	15.5	70.0
MT 0747	MT0223/MT0266	100.0	178.7	32.0	51.2	8.4	58.0	16.0	60.0
ND 695	REEDER	100.0	179.7	31.4	51.0	8.4	58.2	15.4	55.0
MT 0713	CHOTEAU/REEDER	98.5	181.7	32.4	50.6	8.9	60.6	16.6	53.3
MT 0746	MT0223/MT0266	99.4	178.7	36.0	50.3	8.3	56.8	16.1	76.7
MT 0750	MT0220/MT0261	97.8	180.0	32.7	49.8	8.4	58.3	15.8	63.3
MTHW0771	MTHW0202/CHOTEAU	97.2	176.3	25.9	49.5	8.9	60.3	14.5	51.7
MT 0674	MCNEAL/WA7802//MT9754/SCH	97.5	178.3	32.5	49.2	8.3	56.0	16.4	45.0
MT 0745	MT0223/MT0266	98.5	179.0	29.1	49.1	8.5	59.9	15.7	68.3
AGRIPRO6	KELBY	96.9	179.0	28.9	48.9	8.4	59.6	15.5	55.0
MT 0770	MTHW9420/MT0112	98.4	176.0	33.7	48.8	8.7	59.0	15.2	75.0
MT 0765	MT0261/MT0266	98.7	181.3	32.7	48.8	8.4	56.9	16.3	73.3
MT 0658	REEDER/MCNEAL//MCNEAL/MN9	100.0	182.0	31.7	48.5	8.5	56.9	15.7	76.7
MT 0718	CHOTEAU/REEDER	98.8	179.7	28.4	48.2	8.5	57.9	15.0	35.0
BZ9M1044	JEDD	97.5	179.7	28.4	48.2	8.5	57.9	16.0	30.0
MT 0761	MT0266/MT0248	100.0	178.7	33.2	47.8	8.2	56.4	17.0	66.7
BZ996434	CORBIN	99.4	179.0	30.1	47.8	8.5	57.0	15.6	33.3
MT 0515	REEDER/MT9929	99.1	183.0	31.9	47.6	8.7	58.3	15.6	33.3
MT 0724	CHOTEAU/MT0112	97.8	178.3	30.2	47.5	8.5	57.3	15.8	50.0
MT 0664	REEDER/MCNEAL//MCNEAL/WA7	99.4	180.7	32.0	47.3	8.5	57.3	15.3	55.0
MT 0415	MT9408/MT9406//REEDER	99.4	179.3	34.1	46.8	8.4	57.8	16.2	73.3
BZ992588	CONAN	99.1	180.3	30.3	46.6	8.8	58.6	15.3	15.0
MT 0657	REEDER/MCNEAL//MCNEAL/MN9	99.4	181.0	30.1	46.4	8.4	56.7	14.7	48.3
MT 0748	MT0220/MT0248	96.9	177.0	28.0	46.3	8.6	58.2	15.3	45.0
MT 0613	OXEN//REEDER/SCHOLAR	99.7	182.7	29.7	46.2	8.5	57.9	15.9	26.7
CI 13596	FORTUNA	99.7	181.0	36.5	46.1	8.8	58.8	15.7	53.3
MT 0414	MT9408/MT9406//REEDER	99.4	180.3	33.9	46.1	8.3	56.9	16.1	73.3
AGRIPRO8	AP604 CL	98.5	177.7	32.9	46.0	8.6	58.6	16.1	36.7
MT 0759	MT0248/MT0266	100.0	179.3	30.6	45.9	8.4	58.0	16.2	60.0
PI574642	MCNEAL	99.4	183.3	31.5	45.9	8.1	56.0	15.9	51.7
MT 0605	MCNEAL//REEDER/MCNEAL	100.0	182.3	29.4	45.8	8.3	55.6	15.7	50.0
MT 0716	CHOTEAU/REEDER	99.1	182.3	31.2	45.4	8.1	55.9	16.5	66.7
MT 0614	MT0113/RUSS	100.0	180.7	32.4	45.4	8.4	57.5	16.4	28.3

TABLE 4. Continued **Advanced Yield Spring Wheat Cultivar Evaluation Nursery Grown On-Station Under No-Till Dryland Fallow Conditions. Northern Agricultural Research Center. Havre, Montana. 2008. (Exp# 08-3102-SW)**

ID	CULTIVAR or SELECTION	STAND %	1/ HEAD DATE	PLNT HT Inches	2/ YIELD Bu/Ac	MOISTURE %	TEST WT Lbs/Bu	3/ PROTEIN %	4/ SAWFLY %
MTHW0767	MTHW9420/HANK	98.1	180.7	30.6	45.4	8.6	58.6	15.2	53.3
AGRIPRO3	FREYR	98.8	182.0	33.4	45.2	8.5	56.9	15.0	70.0
PI632252	OUTLOOK	98.4	183.7	28.2	45.2	8.4	57.0	14.7	36.7
MT 0631	CHOTEAU/OXEN	99.4	182.0	30.1	45.2	8.3	57.2	15.8	38.3
BZ992322	HANK	97.8	179.3	28.2	45.1	8.3	56.2	16.0	65.0
PI633974	CHOTEAU	100.0	180.0	31.3	45.1	8.4	56.3	16.1	51.7
MT 0715	CHOTEAU/REEDER	98.1	183.3	30.0	45.1	8.1	56.3	16.2	58.3
AGRIPRO1	NORPRO	99.4	182.7	28.7	45.0	8.4	54.7	15.6	26.7
MT 0766	MT0261/MT0266	100.0	182.0	31.8	45.0	8.3	55.6	16.2	53.3
MT 0707	OUTLOOK/NORPRO	98.8	179.7	32.9	44.3	8.4	55.7	16.3	45.0
MT 0669	MT9754/SCHOLAR//REEDER/MC	99.4	182.7	28.7	43.5	8.7	58.8	14.8	45.0
MT 0735	CHOTEAU/HY369	97.2	177.7	33.1	43.1	8.4	56.9	15.9	68.3
LILLIAN	LILLIAN	98.8	184.3	34.8	43.0	8.4	56.6	16.5	31.7
MT 0640	CHOTEAU//REEDER/MCNEAL	99.4	178.7	31.0	42.8	8.6	58.6	14.7	56.7
ACS52610	VOLT	98.7	182.3	30.3	42.4	8.7	59.1	15.2	86.7
MT 0708	OUTLOOK/CHOTEAU	100.0	183.7	30.9	42.3	8.6	58.3	15.4	38.3
MT 0722	MT9918/CHOTEAU	95.7	182.0	33.5	41.7	8.7	58.3	16.0	60.0
MT 0737	CHOTEAU/NORPRO	99.4	182.3	30.5	39.3	8.1	55.5	15.8	55.0
AGRIPRO7	KUNTZ	96.3	184.0	28.9	39.0	8.3	55.7	14.8	70.0
MTHW0471	MTHW9701/MTHW9904	98.8	183.7	31.3	38.7	9.0	60.5	15.7	41.7
CI 10003	THATCHER	99.1	184.0	35.9	33.2	8.4	55.1	16.5	31.7
EXPERIMENTAL MEANS		98.8	180.7	31.2	47.1	8.5	57.5	15.7	49.5
LSD (0.05)		2.6	1.8	3.4	6.7	0.3	2.2	-	21.7
C.V.2: (S of MEAN / MEAN)*100		1.0	0.4	3.9	5.1	1.4	1.3	-	15.6

1/ No. of Days from January 1 (181 = June 29).

2/ Volumetric yields are based on plot weights adjusted to uniform 12 percent grain moisture and 60 lbs/bu as the standard test weight for wheat.

3/ Protein values are adjusted to 12 percent grain moisture.

4/ Sawfly rating is reported as the percentage of cut stems.

Site Resource & Management Data: (Exp# 08-3102-SW)							
Field	A-5-2		SaltHaz(MMHOS/cm) 6-24	0.3		Dry Surf Soil (in.) @ Plnt'g	0.25
Quarter	NW		S (ppm) 0-24	78		2" Soil Temp (^{o}F) @ Plnt'g	68
Section	33		Zn (ppm) 0-6	0.69		4" Soil Temp (^{o}F) @ Plnt'g	60
Township	32N		Fe (ppm) 0-6	12.4		Fertilizer Formulation	Gran Blend
Range	15E		Mn (ppm) 0-6	4.71		Fertilizer Placement	Bnd at Plntg
Latitude	N48 29.612'		Cu (ppm) 0-6	0.98		Fert. Rate (lbs/ac) N	70
Longitude	W109 47.912'		CEC 0-6	17.4		Fert. Rate (lbs/ac) P2O5	40
Soil Series	Scobey CLm		Soil Texture 0-6	CL		Fert. Rate (lbs/ac) K2O	25
pH 0-6	7.7		Soil Texture 6-24	CL		Herbicide App. Date	6/18
Org.Matter (%) 0-6	1.2		Soil Texture 24-36	CL-		Herbicide Product	Bronate Ad
N (lbs/ac) 0-6	49		Soil Texture 36-48	CL		Herbicide Rate (/ac)	20 oz
N (lbs/ac) 6-24	87		Init PAW (in.) 0-6"	0.61		Precip (in.) Plnt'g-Harvest	8.12
N (lbs/ac) 24-36	62		Init PAW (in.) 6-24"	3.42		Precip (>.1) Plnt'g-Harvest	7.51
N (lbs/ac) 36-48	54		Init PAW (in.) 24-36"	1.70		Harvest Date	8/13
N (lbs/ac) 0-48	252		Init PAW (in.) 36-48"	1.88		Rooting Depth (in.)	34
P (ppm) Olsen 0-6	49		Init PAW (in.) 0-48"	7.61		Post PAW (in.) 0-6"	0.48
K (ppm) 0-6	434		Cropping System	NT-ChmFlw		Post PAW (in.) 6-24"	1.68
Ca (ppm)	2196		Previous Crop	SW		Post PAW (in.) 24-36"	1.25
Mg (ppm) 0-6	631		Planting Date	4/18		Post PAW (in.) 36-48"	1.84
Na (ppm) 0-6	19		Planting Depth (in.)	1.5		Post PAW (in.) 0-48"	3.41
SaltHaz (MMHOS/cm) 0-6	0.25		Moist Soil Depth @ Plnt'g	48+		Precip (>.1) Hvst-Post	0

TABLE 5. Ten-Year Yield Summary on Selected Entries from Dryland Advanced Spring Wheat Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (Exp# 3102-SW)

2/ VARIETY or SELECTION		No. of YEARS TESTED	1/ YIELD (Bushels Per Acre) 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK YIELD 3/	**10-YR COMP. AVE. YIELD 4/**
PI642366	VIDA (++)	6					15.2	51.8	59.3	35.8	42.4	55.3	43.3	153.5	**43.7**
BZ999592	ONEAL (P+)	5						54.9	57.2	31.2	33.6	52.2	45.8	141.1	**40.2**
BZ9M1044	JEDD (P+)	4							59.9	33.7	34.4	48.2	44.1	138.5	**39.4**
PI632252	OUTLOOK (++)	10	44.1	41.0	22.9	43.4	15.7	49.4	58.9	31.2	35.7	45.2	38.8	136.1	**38.8**
BZ996472	AGAWAM	8	44.7	37.8	18.6	37.7	11.5	52.6	53.8	34.03			36.4	131.1	**37.3**
ND695	REEDER (+)	10	49.1	43.3	22.5	34.9	13.0	40.3	51.9	30.0	36.2	51.0	37.2	130.7	**37.2**
BZ992588	CONAN (P+) (sawfly tol)	10	47.8	36.0	20.4	33.7	13.9	42.7	57.1	32.9	36.1	46.6	36.7	129.0	**36.7**
BZ996434	CORBIN (P+) (sawfly res)	7			20.0	35.4	10.3	48.6		28.9	42.0	47.8	33.3	127.5	**36.3**
AGRIPRO6	KELBY (P+)	4						38.7		30.8	37.7	48.9	39.0	126.7	**36.1**
BZ992322	HANK (P+)	9		41.7	20.5	36.4	11.0	44.7	54.3	31.7	34.0	45.1	35.5	126.6	**36.0**
PI574642	McNEAL	10	49.2	40.2	18.9	36.5	13.2	40.4	51.8	27.2	35.4	45.9	35.9	125.9	**35.9**
PI633974	CHOTEAU (++) (sawfly res)	9		34.2	19.3	35.7	12.7	43.2	58.0	32.1	36.0	45.1	35.1	125.3	**35.7**
ACS52610	VOLT (P+)	4							53.0	28.4	35.1	42.4	39.7	124.9	**35.6**
AGRIPRO3	FREYR (P+)	5						40.6	48.8	31.9	33.8	45.2	40.1	123.3	**35.1**
PI549275	HI-LINE	6	45.3	37.6	19.7	36.0	11.1	40.7					31.7	120.8	**34.4**
AGRIPRO1	NORPRO (P+)	7				35.5	8.9	39.9	50.3	30.0	35.9	45.0	35.1	120.6	**34.3**
CI17430	NEWANA	6	45.9	35.6	21.5	38.5	12.1	35.7					31.6	120.1	**34.2**
PI607557	SCHOLAR (+) (mod sawfly res)	8	42.2	38.5	21.0	36.8	11.0	44.1	45.8	26.0			33.2	119.6	**34.1**
CI13596	FORTUNA (sawfly res)	10	35.9	35.9	16.7	29.9	9.5	42.0	49.7	33.8	31.5	46.1	33.1	116.2	**33.1**
PI619086	EXPLORER (HW, ++)	6			19.8	36.7	13.1	35.8	47.2	30.5			30.5	115.2	**32.8**
PI592761	ERNEST (+) (sawfly res)	9	39.9	37.3	19.6	36.1	12.7	39.5	45.0	24.9	32.5		31.9	114.2	**32.5**
AGRIPRO7	KUNTZ (P+)	3								26.1	31.3	39.0	32.1	109.5	**31.2**
AGRIPRO2	KNUDSON (P+)	5				31.6	7.6	38.8	46.7	28.0			30.5	108.7	**31.0**
PI612605	MTHW9420 (HW, P++)	6	35.6	38.7	16.4	30.8	7.9	38.5					28.0	106.5	**30.3**
CI10003	THATCHER	10	32.5	30.4	18.4	34.2	6.9	35.2	39.3	24.9	29.9	33.2	28.5	100.0	**28.5**
PI527682	AMIDON (mod sawfly res)	6	4.0	35.9	22.2	40.6	11.1	38.2					25.3	96.5	**27.5**
MEANS (For Entries Listed)			39.7	37.6	19.9	35.8	11.4	42.4	52.0	30.2	35.2	46.0			**34.6**
April-July Precip. (in.)			8.57	6.01	4.81	8.87	7.07	8.64	7.37	5.71	7.43	8.09	7.26		
Total Annual Precip. (in.)			14.3	10.27	8.83	13.29	11.54	14.43	11.87	10.29	12.42	12.21	11.95		
Soil NO3 (lbs.) to SD at Planting			Pndg	Pndg	Pndg	98	44	86	142	119	220	252	137		
SD (Sampling Depth in Inches)			Pndg	Pndg	48	48	48	48	48	48	48	48	48		
Fertilizer Applied		(# N)	70	70	70	70	70	70	70	70	70	70	70		
		(# P2O5)	40	40	40	40	40	40	40	40	40	40	40		
		(# K2O)	25	25	25	25	25	25	25	25	25	25	25		

Long-term check variety is Thatcher.

1/ See MCES Bulletin 1093 or the Plant Sciences & Plant Pathology website at http://plantsciences.montana.edu/ for evaluation of other important variety performance characteristics to include protein, quality, disease resistance, etc. before making cultivar selecton decisions.

2/ P = Private Variety, + = Protected Variety, ++ = PVP Title 5 or Title 5 Pending, HW = Hard White Wheat.

3/ Percent of Thatcher yield or test weight for the same data years as those in which a given entry was tested.

4/ 10-Yr Comparable Average = (x/y) * z where x = average yield of a given entry for years tested, y = average yield for Thatcher for the same years, and z = 10-Yr average yield for the check variety Thatcher.

TABLE 6. Ten-Year Test Weight Summary on Selected Entries from Dryland Advanced Spring Wheat Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (Exp# 3102-SW)

2/ VARIETY or SELECTION		No. of YEARS TESTED	1/ TEST WEIGHT (Pounds Per Bushel) 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK TEST WT 3/	**10-YR COMP. AVE. TEST WT 4/**
BZ996472	AGAWAM	8	60.5	60.6	60.0	61.2	60.3	63.0	59.9	58.6			60.5	111.4	**60.4**
AGRIPRO6	KELBY (P+)	4						60.0		57.2	59.2	59.6	59.0	111.0	**60.2**
ACS52610	VOLT (P+)	4							60.1	56.4	57.5	59.1	58.3	108.7	**58.9**
PI607557	SCHOLAR (+) (mod sawfly res)	8	58.1	60.7	59.4	61.3	57.3	58.7	58.3	55.8			58.7	108.1	**58.6**
BZ992588	CONAN (P+) (sawfly tol)	10	58.2	59.4	59.5	61.1	56.6	59.9	59.4	54.6	57.5	58.6	58.5	107.9	**58.5**
BZ9M1044	JEDD (P+)	4							59.9	55.5	58.1	57.9	57.9	107.9	**58.5**
AGRIPRO3	FREYR (P+)	5						61.0	58.8	55.1	57.1	56.9	57.8	107.7	**58.4**
BZ996434	CORBIN (P+) (sawfly res)	7			57.4	60.9	57.7	60.1		54.7	57.6	57.0	57.9	107.7	**58.4**
AGRIPRO2	KNUDSON (P+)	5				60.5	57.4	59.0	57.5	54.8			57.8	107.4	**58.2**
ND695	REEDER (+)	10	58.6	60.1	58.2	60.6	57.4	58.9	58.6	53.6	56.8	58.2	58.1	107.2	**58.1**
CI13596	FORTUNA (sawfly res)	10	57.9	59.2	57.2	59.2	56.8	59.2	59.2	56.0	56.8	58.8	58.0	107.0	**58.0**
BZ999592	ONEAL (P+)	5						60.5	58.8	54.1	56.0	57.8	57.4	107.0	**58.0**
PI527682	AMIDON (mod sawfly res)	6	57.0	59.1	57.7	59.8	57.1	59.1					58.3	106.8	**57.9**
PI592761	ERNEST (+) (sawfly res)	9	57.4	59.7	58.0	60.0	56.8	59.4	56.9	54.5	57.3		57.8	106.8	**57.9**
CI17430	NEWANA	6	55.0	57.7	59.6	62.0	56.2	58.8					58.2	106.6	**57.8**
PI642366	VIDA (++)	6					55.9	58.6	57.8	52.0	55.8	58.6	56.4	106.3	**57.6**
PI619086	EXPLORER (HW, ++)	6			58.0	60.3	56.8	58.5	56.7	54.6			57.5	106.2	**57.6**
PI633974	CHOTEAU (++) (sawfly res)	9		58.5	57.0	60.2	57.8	59.5	58.7	52.8	55.7	56.3	57.4	105.8	**57.3**
AGRIPRO7	KUNTZ (P+)	3								55.3	56.3	55.7	55.8	105.5	**57.2**
AGRIPRO1	NORPRO (P+)	7				61.8	57.1	58.4	56.8	51.9	55.4	54.7	56.6	105.1	**57.0**
PI549275	HI-LINE	6	57.1	56.0	56.4	60.7	56.6	56.9					57.3	104.9	**56.9**
BZ992322	HANK (P+)	9		57.3	57.7	59.6	56.5	58.3	55.2	53.7	54.9	56.2	56.6	104.3	**56.6**
PI632252	OUTLOOK (++)	10	56.6	56.9	56.9	59.9	54.3	57.6	58.0	51.3	55.3	57.0	56.4	104.0	**56.4**
PI574642	McNEAL	10	56.6	57.4	57.7	60.1	54.0	57.0	57.3	52.7	54.5	56.0	56.3	103.9	**56.3**
PI612605	MTHW9420 (HW, P++)	6	54.5	57.1	57.0	60.6	55.8	54.4					56.6	103.6	**56.2**
CI10003	THATCHER	10	53.8	55.9	55.5	58.3	50.3	53.8	55.8	51.1	52.5	55.1	54.2	100.0	**54.2**
MEANS (For Entries Listed)			57.0	58.4	57.8	60.4	56.4	58.7	58.1	54.4	56.3	57.3			**57.7**
April-July Precip. (in.)			8.57	6.01	4.81	8.87	7.07	8.64	7.37	5.71	7.43	8.09	7.26		
Total Annual Precip. (in.)			14.3	10.27	8.83	13.29	11.54	14.43	11.87	10.29	12.42	12.21	11.95		
Soil NO3 (lbs.) to SD at Planting			Pndg	Pndg	Pndg	98	44	86	142	119	220	252	137		
SD (Sampling Depth in Inches)			Pndg	Pndg	48	48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70	70	70	70	70	70	70	70	70	70		
	(# P2O5)		40	40	40	40	40	40	40	40	40	40	40		
	(# K2O)		25	25	25	25	25	25	25	25	25	25	25		

Long-term check variety is Thatcher.

1/ See MCES Bulletin 1093 or the Plant Sciences & Plant Pathology website at http://plantsciences.montana.edu/ for evaluation of other important variety performance characteristics to include protein, quality, disease resistance, etc. before making cultivar selecton decisions.

2/ P = Private Variety, + = Protected Variety, ++ = PVP Title 5 or Title 5 Pending, HW = Hard White Wheat.

3/ Percent of Thatcher yield or test weight for the same data years as those in which a given entry was tested.

4/ 10-Yr Comparable Average = (x/y) * z where x = average test weight of a given entry for years tested, y = average test weight for Thatcher for the same years, and z = 10-Yr average test weight for the check variety Thatcher.

Table 7. Montana Spring Durum Cultivar Evaluation Nursery Grown On-Station Under No-Till Dryland Fallow Conditions. Northern Agricultural Research Center. Havre, Montana. 2008. (Exp# 08-9802-SW)

ID	CULTIVAR or SELECTION	STAND %	1/ HEAD DATE	PLNT HT Inches	2/ YIELD Bu/Ac	MOISTURE %	TEST WT Lbs/Bu	KRNLWT g/1000	3/ PROTEIN %	4/ HVAC SCORE	5/ SAWFLY %
MT01649	MT01649	98.1	183.7	24.2	51.7	10.0	55.7	32.3	15.5	80.5	5.3
CIMMYT11	CIMMYT#11	97.2	183.7	27.3	50.9	10.4	55.0	25.0	15.5	70.9	3.7
MT01695	MT01695	98.1	185.0	26.9	50.2	10.3	60.3	33.2	14.2	81.8	2.3
MT02525	MT02525	99.4	185.0	27.7	49.4	10.0	58.0	28.5	15.1	84.3	2.3
LEVANTE	LEVANTE	97.5	184.3	25.0	49.2	9.7	58.4	30.9	14.9	78.1	8.3
SVEVO	SVEVO	98.7	184.3	26.7	48.2	9.9	57.0	32.0	15.9	79.2	5.0
MT04174	MT04174	97.8	183.7	27.3	47.7	9.9	57.0	29.1	15.3	90.4	21.7
STRNGFLD	STRONGFIELD	97.5	185.7	31.4	46.6	10.1	57.2	29.1	16.5	92.8	10.0
CIMMYT#8	CIMMYT#8	99.1	185.3	27.6	46.1	10.2	56.8	27.1	15.6	69.7	2.3
YU894-75	ALZADA	99.4	183.7	28.4	45.2	9.5	55.7	29.0	16.4	86.9	6.7
MT03012	MT03012	99.4	183.3	28.6	44.5	9.9	55.6	30.3	16.0	86.6	6.7
MT02DH82	MT02DH82	100.0	183.3	32.9	44.4	10.1	57.8	36.2	15.7	79.2	50.0
NORMANNO	NORMANNO	97.5	185.0	25.6	44.0	10.1	55.7	30.1	15.3	76.1	2.3
CIMMYT#5	CIMMYT#5	100.0	184.7	24.1	43.7	10.2	55.2	23.1	15.7	67.5	1.0
MT02DH55	MT02DH55	98.5	185.0	32.3	43.1	9.9	56.4	28.0	16.1	80.4	38.3
SARAGOLL	SARAGOLLA	99.7	184.3	26.7	42.8	10.2	55.3	26.3	16.0	68.1	5.0
GRENORA	GRENORA	96.0	185.7	30.5	41.4	10.3	57.4	30.2	15.8	83.2	38.3
D901442	LEBSOCK	99.1	185.3	29.1	40.9	10.4	59.6	29.9	15.5	83.2	28.3
DILSE	DILSE	98.8	185.0	31.3	40.8	9.9	58.2	30.3	16.0	82.6	40.0
ALKABO	ALKABO	94.1	185.3	32.7	40.5	10.3	58.3	29.0	16.3	89.0	30.0
MT02DH75	MT02DH75	99.4	186.0	31.8	40.5	10.0	57.7	32.4	14.7	78.7	40.0
D901313	MOUNTRAIL	99.7	185.0	33.0	39.8	9.7	55.7	29.9	17.2	81.8	30.0
DIVIDE	DIVIDE	98.7	185.3	31.5	39.1	10.0	57.8	29.5	16.1	77.4	21.7
PIERCE	PIERCE	98.1	184.0	33.5	38.8	10.3	58.6	29.0	15.6	84.6	45.0
EXPERIMENTAL MEANS		98.4	184.7	29.0	44.6	10.1	57.1	29.6	15.7	80.5	18.5
LSD (0.05)		3.5	1.1	2.7	5.0	0.3	1.3	-	-	-	18.2
C.V.2: (S of MEAN / MEAN)*100		1.3	0.2	3.3	4.0	1.1	0.8	-	-	-	34.5

1/ No. of Days from January 1 (185 = July 3).

2/ Volumetric yields are based on plot weights adjusted to uniform 12 percent grain moisture and 60 lbs/bu as the standard test weight for durum.

3/ Protein values are adjusted to 12 percent grain moisture.

4/ Hard Vitreous Amber Color.

5/ Sawfly rating is reported as the percentage of cut stems.

Site Resource & Management Data: (Exp# 08-9802-SW)							
Field	A-5-2		SaltHaz(MMHOS/cm) 6-24	0.3		Dry Surf Soil (in.) @ Plnt'g	0.25
Quarter	NW		S (ppm) 0-24	78		2" Soil Temp (^{o}F) @ Plnt'g	70
Section	33		Zn (ppm) 0-6	0.69		4" Soil Temp (^{o}F) @ Plnt'g	62
Township	32N		Fe (ppm) 0-6	12.4		Fertilizer Formulation	Gran Blend
Range	15E		Mn (ppm) 0-6	4.71		Fertilizer Placement	Bnd at Plntg
Latitude	N48 29.631'		Cu (ppm) 0-6	0.98		Fert. Rate (lbs/ac) N	70
Longitude	W109 47.912'		CEC 0-6	17.4		Fert. Rate (lbs/ac) P2O5	40
Soil Series	Scobey CLm		Soil Texture 0-6	CL		Fert. Rate (lbs/ac) K2O	25
pH 0-6	7.7		Soil Texture 6-24	CL		Herbicide App. Date	6/18
Org.Matter (%) 0-6	1.2		Soil Texture 24-36	CL-		Herbicide Product	Bronate Adv
N (lbs/ac) 0-6	49		Soil Texture 36-48	CL		Herbicide Rate (/ac)	20 oz
N (lbs/ac) 6-24	87		Init PAW (in.) 0-6"	0.61		Precip (in.) Plnt'g-Harvest	7.77
N (lbs/ac) 24-36	62		Init PAW (in.) 6-24"	3.42		Precip (>.1) Plnt'g-Harvest	7.51
N (lbs/ac) 36-48	54		Init PAW (in.) 24-36"	1.70		Harvest Date	8/15
N (lbs/ac) 0-48	252		Init PAW (in.) 36-48"	1.88		Rooting Depth (in.)	34
P (ppm) Olsen 0-6	49		Init PAW (in.) 0-48"	7.61		Post PAW (in.) 0-6"	0.81
K (ppm) 0-6	434		Cropping System	NT-ChmFlw		Post PAW (in.) 6-24"	3.00
Ca (ppm)	2196		Previous Crop	SW		Post PAW (in.) 24-36"	2.13
Mg (ppm) 0-6	631		Planting Date	4/28		Post PAW (in.) 36-48"	1.72
Na (ppm) 0-6	19		Planting Depth (in.)	1.5		Post PAW (in.) 0-48"	7.66
SaltHaz (MMHOS/cm) 0-6	0.25		Moist Soil Depth @ Plnt'g	48+		Precip (>.1) Hvst-Post	0

TABLE 8. Ten-Year Yield Summary on Selected Entries from Dryland Montana Spring Durum Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (Exp# 9802-SW)

2/ VARIETY or SELECTION		No. of YEARS TESTED	1/ YIELD (Bushels Per Acre) 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK YIELD 3/	**10-Yr COMP. AVE. YIELD 4/**
MT01695	MT01695	3								32.1	40.2	50.2	40.8	119.9	**40.7**
MT02525	MT02525	3								29.2	40.6	49.4	39.7	116.7	**39.6**
STRONGFIELD	STRONGFIELD	3								31.2	37.8	46.6	38.5	113.2	**38.4**
MT02DH82	MT02DH82	3								32.2	37.6	44.4	38.1	111.8	**37.9**
MT03012	MT03012	3								29.9	36.5	44.5	37.0	108.6	**36.8**
YU894-75	ALZADA (P+)	8			18.9	39.2	9.1	47.7	46.2	30.6	44.7	45.2	35.2	107.0	**36.3**
GRENORA	GRENORA	3								29.7	37.0	41.4	36.0	105.8	**35.9**
ACAVONLE	AC AVONLEA (+)	6			21.4	40.3	8.1	44.7	49.9	31.2			32.6	104.7	**35.5**
MT02DH55	MT02DH55	3								28.6	35.0	43.1	35.5	104.4	**35.4**
PI574642	McNEAL (HRSW check)	7	43.8	39.4	18.9	39.1	15.6	41.1	49.0				35.3	104.2	**35.3**
D91080	PLAZA (+)	8	44.6	33.8	19.1	38.0	12.4	41.8	50.3	29.6			33.7	102.6	**34.8**
DIVIDE	DIVIDE	3								27.1	37.6	39.1	34.6	101.6	**34.5**
CANKYLE	KYLE	8	39.6	31.4	20.5	36.7	12.5	49.9	46.0	30.2			33.4	101.5	**34.4**
D89135	MAIER (+)	8	45.2	34.3	15.7	39.0	10.0	43.5	48.5	29.9			33.3	101.2	**34.3**
D901313	MOUNTRAIL (+)	10	41.4	34.6	18.9	39.5	11.6	44.3	46.7	25.8	36.5	39.8	33.9	100.0	**33.9**
ALKABO	ALKABO	3								27.1	34.0	40.5	33.9	99.5	**33.7**
DILSE	DILSE	5					11.1	41.4	48.6	25.2		40.8	33.4	99.3	**33.7**
D901442	LEBSOCK (+)	8	43.0	35.1	16.3	35.2	10.5	46.7	46.6			40.9	34.3	99.1	**33.6**
NDMUNICH	MUNICH (+)	7	42.6	36.0	17.0	38.7	10.6	40.4	44.9				32.9	97.1	**32.9**
PI478289	MONROE	7	40.0	35.0	16.9	33.7	7.1	43.4	47.8				32.0	94.4	**32.0**
PIERCE	PIERCE	6					11.6	40.6	41.9	25.3	32.8	38.8	31.8	93.3	**31.6**
D87130	BEN (+)	7	38.9	33.8	15.8	35.9	8.4	41.3	41.2				30.8	90.9	**30.8**
CI17789	VIC	7	36.4	33.2	19.1	35.3	10.9	35.7	44.6				30.7	90.8	**30.8**
MEANS (For Entries Listed)			41.6	34.7	18.2	37.5	10.7	43.0	46.6	29.1	37.5	43.2			**34.9**
April-July Precip. (in.)			8.57	6.01	4.81	8.87	7.07	8.64	7.37	5.71	7.43	8.09	7.26		
Total Annual Precip. (in.)			14.30	10.27	8.83	13.29	11.54	14.43	11.87	10.29	12.42	12.21	11.95		
Soil NO3 (lbs.) to SD at Planting			Pndg	Pndg	Pndg	98	46	86	142	160	220	252	143		
SD (Sampling Depth in Inches)			Pndg	Pndg	48	48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70	70	70	70	70	70	70	70	70	70		
	(# P_2O_5)		40	40	40	40	40	40	40	40	40	40	40		
	(# K_2O)		25	25	25	25	25	25	25	25	25	25	25		

Long-term check variety is Mountrail.

1/ See MCES Bulletin 1093 or the Plant Sciences & Plant Pathology website at http://plantsciences.montana.edu/ for evaluation of other important variety performance characteristics to include protein, quality, disease resistance, etc. before making cultivar selecton decisions.

2/ P = Private Variety, + = Protected Variety, ++ = PVP Title 5 or Title 5 Pending.

3/ Percent of Mountrail yield for the same data years as those in which a given entry was tested.

4/ 10-Yr Comparable Average = (x/y) * z where x = average yield of a given entry for years tested, y = average yield for Mountrail for the same years, and z = 10-Yr average yield for the check variety Mountrail.

TABLE 9. Ten-Year Test Weight Summary on Selected Entries from Dryland Montana Spring Durum Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (Exp# 9802-SW)

2/ VARIETY or SELECTION		No. of YEARS TESTED	1/TEST WEIGHT (Pounds Per Bushel) 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK TEST WT 3/	**10-Yr COMP. AVE. TEST WT 4/**
MT01695	MT01695	3								55.0	61.4	60.3	58.9	104.7	**60.7**
D901442	LEBSOCK (+)	8	59.4	60.4	61.2	62.3	58.2	61.4	58.2			59.6	60.1	103.0	**59.7**
MT02525	MT02525	3								55.4	59.7	58.0	57.7	102.6	**59.5**
CI17789	VIC	7	60.0	60.5	60.2	62.2	58.1	61.5	58.9				60.2	102.5	**59.4**
PIERCE	PIERCE	6					57.4	60.8	57.5	54.6	59.2	58.6	58.0	102.3	**59.3**
DILSE	DILSE	5					56.9	59.7	57.6	55.4		58.2	57.6	102.0	**59.1**
STRONGFIELD	STRONGFIELD	3								57.3	57.6	57.2	57.4	102.0	**59.1**
DIVIDE	DIVIDE	3								55.5	58.7	57.8	57.3	101.9	**59.1**
D87130	BEN (+)	7	59.5	60.0	60.6	62.3	57.5	60.8	57.9				59.8	101.9	**59.1**
CANKYLE	KYLE	8	59.2	59.1	61.7	62.9	57.7	59.7	58.8	55.2			59.3	101.8	**59.0**
MT02DH82	MT02DH82	3								54.7	59.3	57.8	57.3	101.8	**59.0**
ALKABO	ALKABO	3								54.6	58.9	58.3	57.3	101.8	**59.0**
ACAVONLE	AC AVONLEA (+)	6			61.2	62.8	56.8	60.2	56.5	56.2			58.9	101.5	**58.9**
D89135	MAIER (+)	8	59.9	59.1	60.8	62.1	56.6	60.0	57.7	55.8			59.0	101.3	**58.7**
GRENORA	GRENORA	3								55.7	57.9	57.4	57.0	101.3	**58.7**
D91080	PLAZA (+)	8	58.6	59.3	61.5	62.0	57.1	59.7	56.3	56.1			58.8	101.0	**58.5**
MT02DH55	MT02DH55	3								56.0	57.6	56.4	56.7	100.7	**58.4**
PI478289	MONROE	7	58.6	59.9	59.2	61.0	56.7	59.8	56.6				58.8	100.2	**58.1**
MT03012	MT03012	3								55.4	57.9	55.6	56.3	100.1	**58.0**
D901313	MOUNTRAIL (+)	10	58.8	58.8	60.1	61.7	56.7	59.2	55.6	55.0	58.1	55.7	58.0	100.0	**58.0**
YU894-75	ALZADA (P+)	8			60.9	61.4	58.1	58.8	55.3	53.8	57.5	55.7	57.7	99.9	**57.9**
NDMUNICH	MUNICH (+)	7	58.1	59.1	59.6	60.4	55.4	59.4	56.8				58.4	99.5	**57.7**
PI574642	McNEAL (HRSW check)	7	57.3	57.0	58.8	60.2	55.2	60.3	56.7				57.9	98.7	**57.2**
MEANS (For Entries Listed)			58.9	59.3	60.5	61.8	57.0	60.1	57.2	55.4	58.7	57.6			**58.8**
April-July Precip. (in.)			8.57	6.01	4.81	8.87	7.07	8.64	7.37	5.71	7.43	8.09	7.26		
Total Annual Precip. (in.)			14.30	10.27	8.83	13.29	11.54	14.43	11.87	10.29	12.42	12.21	11.95		
Soil NO3 (lbs.) to SD at Planting			Pndg	Pndg	Pndg	98	46	86	142	160	220	252	143		
SD (Sampling Depth in Inches)			Pndg	Pndg	48	48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70	70	70	70	70	70	70	70	70	70		
	(# P_2O_5)		40	40	40	40	40	40	40	40	40	40	40		
	(# K_2O)		25	25	25	25	25	25	25	25	25	25	25		

Long-term check variety is Mountrail.

1/ See MCES Bulletin 1093 or the Plant Sciences & Plant Pathology website at http://plantsciences.montana.edu/ for evaluation of other important variety performance characteristics to include protein, quality, disease resistance, etc. before making cultivar selecton decisions.

2/ P = Private Variety, + = Protected Variety, ++ = PVP Title 5 or Title 5 Pending.

3/ Percent of Mountrail test weight for the same data years as those in which a given entry was tested.

4/ 10-Yr Comparable Average = (x/y) * z where x = average test weight of a given entry for years tested, y = average test weight for Mountrail for the same years, and z = 10-Yr test weight for the check variety Mountrail.

TABLE 10. Intrastate Spring Barley Cultivar Evaluation Nursery Grown On-Station Under No-Till Dryland Fallow Conditions at Northern Agricultural Research Center. Havre, MT. 2008. (Exp# 08-2102-SB)

ID	CULTIVAR or SELECTION	STAND %	1/ HEAD DATE	PLNT HT Inches	2/ YIELD Bu/Ac	MOIST %	TEST WT Lbs/Bu	PLUMP %	THIN %	3/ PROTEIN %
MT061047	Baronesse/MT981210	96.5	186.7	28.5	89.1	10.6	51.1	89.0	3.6	15.6
YU501385	CHAMPION	94.8	183.3	29.1	85.5	10.6	52.7	91.0	2.5	14.2
MT040204	MT960228/GS 1750	94.1	188.0	28.6	84.2	10.6	50.3	80.6	5.7	14.6
MT040013	Baronesse/MT9600222	95.5	185.0	29.5	83.8	10.7	51.2	89.4	3.4	15.6
MT061052	Baronesse/MT981212	98.3	185.0	27.4	82.4	10.7	50.4	85.6	4.0	15.4
MT050062	Harrington/MT960225	96.5	184.0	29.3	82.1	10.6	51.9	89.4	4.0	14.2
MT061048	Baronesse/MT981210	94.4	187.0	28.7	81.2	10.5	50.5	86.4	4.2	15.6
MT040226	MT040226/MT950186	91.0	184.7	31.1	80.5	10.9	53.9	93.0	1.6	14.1
PI568246	BARONESSE	95.2	183.7	30.0	80.5	10.5	49.9	86.0	4.5	15.6
MT050049	GS 1750/MT970116	93.8	184.0	29.5	80.2	10.6	52.3	89.6	4.0	14.0
MT061035	Baronesse/MT981210	96.2	184.7	28.0	80.1	10.8	50.8	91.0	2.6	14.8
MT020204	MTLB 32/H1851195	93.4	183.3	29.8	79.9	10.9	51.4	90.1	2.9	15.7
MT061207	MT970229/LK232	88.2	185.0	29.2	79.4	10.1	52.1	96.9	1.1	14.6
MT050030	GS 1750/Bearpaw	92.7	185.7	30.2	79.4	10.6	49.9	85.8	4.6	13.9
MT061042	Baronesse/MT981210	95.5	187.3	28.7	79.0	10.6	49.3	85.3	5.0	15.9
MT061169	MT960101/Coors 37	96.2	185.7	27.4	78.0	10.2	50.1	90.0	3.8	15.3
MT040024	GS 1750/MT950186	94.1	184.3	29.0	77.9	10.8	51.6	75.6	5.9	13.7
MT040073	MT960045/Harrington	96.2	185.0	28.0	77.3	10.6	52.8	90.2	2.5	15.1
MT061100	Harrington/MT970229	89.6	186.0	27.2	76.6	10.4	50.5	94.2	1.8	15.1
MT061045	Baronesse/MT981210	96.9	186.0	28.1	76.3	10.7	50.0	82.7	5.6	16.0
BZ596117	BOULDER	95.5	183.7	28.0	76.1	10.6	51.9	94.1	1.7	15.5
MT061058	Conlin/MT970110	97.2	183.7	29.8	76.1	10.7	50.9	81.9	5.0	15.4
MT030137	MTLB 2/MT940053	94.1	185.7	26.8	76.0	10.4	52.3	91.8	2.5	15.7
MT061051	Baronesse/MT981212	96.5	184.7	28.9	75.9	10.6	49.7	84.1	5.3	15.8
MT050050	GS 1750/MT970116	91.3	184.0	30.0	75.8	10.8	51.7	89.1	3.9	14.7
MT061034	Baronesse/MT981210	97.2	187.3	27.6	75.8	10.3	50.3	89.5	2.6	15.8
MT950189	HAXBY	89.9	184.0	29.5	75.8	10.8	52.9	90.6	2.2	14.8
MT030042	MT910189/MT960099	92.7	184.7	26.5	75.4	11.1	51.6	83.2	5.7	14.1
MT061032	Baronesse/MT981210	95.5	189.7	27.9	75.4	10.6	50.1	90.4	2.5	15.7
MT020162	MT960225/H1851195	92.0	186.3	29.0	75.3	10.8	50.3	83.7	6.5	15.9
MT010158	MT920041/Harrington	90.6	185.3	28.0	75.0	10.6	50.7	85.4	5.2	15.8
MT061246	MT990172/Coors 37	94.8	182.3	29.5	74.5	10.3	52.3	98.0	0.5	15.4
MT061054	Baronesse/MT981212	95.2	186.7	28.8	74.1	10.8	49.4	83.3	5.1	15.8
MT910189	HOCKETT	95.5	183.7	27.5	73.8	10.5	52.0	92.4	2.6	14.4
MT050048	GS 1750/MT970116	94.1	185.3	28.7	73.7	10.5	52.8	94.8	1.8	14.9
MT040181	MT960228/MT920053	88.9	189.0	26.6	73.6	10.6	51.0	84.8	5.0	15.2
MT061248	MT990172/Coors 37	93.1	184.7	27.1	73.1	10.6	50.2	96.1	1.2	15.4
6B952483	TRADITION	87.5	181.7	29.7	73.0	10.0	49.2	84.2	4.4	14.7
MT061201	MT970110/LK232	95.2	183.3	30.3	72.9	10.4	50.9	92.2	2.1	15.0
MT040216	MT970086/MT950186	93.0	187.3	26.5	72.7	10.5	52.7	89.9	2.5	14.9
MT061225	MT970229/LK232	92.7	185.0	29.4	72.6	10.9	51.8	94.4	1.8	14.8
AQUILA	AQUILA	86.8	177.3	29.0	71.7	10.3	49.3	82.4	6.6	14.1
MT040209	MT960228/MT950186	94.1	185.3	28.4	70.5	10.9	50.8	80.6	5.7	15.8

TABLE 10. Intrastate Spring Barley Cultivar Evaluation Nursery Grown On-Station Under No-Till Dryland Fallow Conditions at Northern Agricultural Research Center. Havre, MT. 2008. (Exp# 08-2102-SB)

Continued

ID	CULTIVAR or SELECTION	STAND %	1/ HEAD DATE	PLNT HT Inches	2/ YIELD Bu/Ac	MOIST %	TEST WT Lbs/Bu	PLUMP %	THIN %	3/ PROTEIN %
MT010160	MT920041/Harrington	89.6	185.7	29.2	70.2	10.8	50.6	84.4	4.7	15.4
MT061160	MT960101/Coors 37	95.2	187.7	28.5	69.4	10.2	50.2	85.9	5.3	15.5
MT050035	GS 1750/H3860224	91.7	186.3	29.7	69.3	10.6	50.1	92.8	2.8	14.7
MT960228	ESLICK	95.8	187.7	25.8	69.2	10.5	50.1	67.6	10.8	16.3
CP060194	GOLDENEYE	92.0	180.0	25.3	69.0	10.6	47.6	79.2	6.7	13.9
MT030063	MT950155/Harrington	93.8	186.7	30.0	69.0	10.8	52.2	94.4	1.8	15.3
MT030079	MT950186/MT960225	90.6	186.0	29.9	68.8	10.8	52.7	91.9	2.4	14.7
MT040130	MT960101/WC 1304	95.8	189.0	27.7	68.8	10.8	49.9	75.9	9.1	16.5
2B992316	2B91-4947//2B91-4947/2B95	94.4	185.0	28.1	68.4	10.1	48.2	75.7	10.0	15.8
MT960101	GERALDINE	93.0	189.3	26.6	68.4	10.7	49.9	74.1	9.9	15.5
MT061240	MT981212/Kendall	91.3	183.7	28.6	67.9	10.6	51.6	89.8	3.0	15.1
2B965057	CONRAD	91.7	189.0	28.8	67.4	10.5	49.4	87.4	3.9	16.5
MT970116	CRAFT	89.9	182.7	31.7	67.0	10.2	51.5	92.7	2.8	15.1
MT061134	Kendal/Conlin	93.1	188.3	29.2	66.9	10.5	50.7	94.1	2.0	15.8
MT020155	MT960225/H1851195	93.4	178.3	29.2	66.6	10.2	50.8	91.0	2.4	15.2
MT061026	92Ab5180/LK690	93.7	178.0	28.3	66.5	9.8	45.7	48.0	22.6	12.0
MT050201	MT970116/MT960222	95.8	183.7	29.2	66.2	10.5	51.8	89.9	3.6	15.0
MT061025	92Ab5180/LK690	92.7	179.0	28.8	65.3	9.7	44.8	41.5	27.0	13.1
2B992657	2B91-4947//2B91-4947/2B94	94.8	185.3	28.6	65.3	10.3	48.8	80.9	7.7	16.1
MT061104	Harrington/MT970229	89.6	185.3	28.3	65.2	10.6	51.4	95.4	1.6	15.6
MT061011	92Ab5180/LK690	93.4	179.3	25.8	62.2	9.9	44.7	43.7	23.6	12.3
EXPERIMENTAL MEANS		93.5	184.9	28.6	74.1	10.5	50.6	85.6	5.0	15.1
LSD (0.05)		5.3	2.6	2.8	10.1	0.4	1.2	-	-	0.9
C.V.2: (S of MEAN / MEAN)*100		2.0	0.5	3.5	4.9	1.4	0.9	-	-	2.1

1/ No. of Days from January 1 (185 = July 3rd).

2/ Volumetric yields are based on plot weights adjusted to uniform 12 percent grain moisture and 48 lbs/bu as the standard test weight for barley.

3/ Protein values are reported on a 100% dry matter basis.

Site Resource & Management Data: (Exp# 08-2102-SB)							
Field	A-5-1		SaltHaz(MMHOS/cm) 6-24	0.28		Dry Surf Soil (in.) @ Plnt'g	0.25
Quarter	NW		S (ppm) 0-24	64		2" Soil Temp (^{o}F) @ Plnt'g	70
Section	33		Zn (ppm) 0-6	0.46		4" Soil Temp (^{o}F) @ Plnt'g	64
Township	32N		Fe (ppm) 0-6	8.2		Fertilizer Formulation	Gran.Blend
Range	15E		Mn (ppm) 0-6	3.55		Fertilizer Placement	Bnd at Plntg
Latitude	N48 29.687'		Cu (ppm) 0-6	0.82		Fert. Rate (lbs/ac) N	70
Longitude	W109 47.912'		CEC 0-6	16		Fert. Rate (lbs/ac) P2O5	40
Soil Series	Kenilworth L		Soil Texture 0-6	CL-		Fert. Rate (lbs/ac) K2O	25
pH 0-6	8		Soil Texture 6-24	SCL-		Herbicide App. Date	6/18
Org.Matter (%) 0-6	0.9		Soil Texture 24-36	SCL-		Herbicide Product	Bronate Adv
N (lbs/ac) 0-6	46		Soil Texture 36-48	SCL-		Herbicide Rate (/ac)	20 oz
N (lbs/ac) 6-24	33		Init PAW (in.) 0-6"	0.4		Precip (in.) Plnt'g-Harvest	7.74
N (lbs/ac) 24-36	52		Init PAW (in.) 6-24"	1.7		Precip (>.1) Plnt'g-Harvest	7.17
N (lbs/ac) 36-48	26		Init PAW (in.) 24-36"	1.8		Harvest Date	8/16
N (lbs/ac) 0-48	157		Init PAW (in.) 36-48"	1.7		Rooting Depth (in.)	30"
P (ppm) Olsen 0-6	21		Init PAW (in.) 0-48"	5.6		Post PAW (in.) 0-6"	0.6
K (ppm) 0-6	253		Cropping System	NT-ChmFlw		Post PAW (in.) 6-24"	2.8
Ca (ppm) 0-6	2403		Previous Crop	SW		Post PAW (in.) 24-36"	1.9
Mg (ppm) 0-6	395		Planting Date	4/28		Post PAW (in.) 36-48"	1.8
Na (ppm) 0-6	27		Planting Depth (in.)	1.5		Post PAW (in.) 0-48"	7.1
SaltHaz (MMHOS/cm) 0-6	0.4		Moist Soil Depth @ Plnt'g	48+		Precip (>.1) Hvst-Post	0

TABLE 11. Nine-Year Yield Summary on Selected Entries from Dryland Intrastate Spring Barley Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (EXP# 2102-SB)

2/ VARIETY or SELECTION		No. of YEARS TESTED	1/ YIELD (Bushels Per Acre) 1999	2000	2001	2002	2003	2004 3/	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK YIELD 4/	**9-YR COMP. AVE. YIELD 5/**
MT970229	MT890021/STARK	7	81.6	60.6	32.1	56.3	14.4		84.2	68.8			56.8	103.8	**61.2**
MT010158	MT920041/HARRINGTON	5					19.3		80.7	63.2	62.7	75.0	60.2	102.5	**60.5**
6B952482	TRADITION (P+)	6				54.5	8.8		81.3	66.7	71.5	73.0	59.3	101.5	**59.8**
MT960099	MANLEY/BARONESSE	5	80.6	64.5	30.9	61.5	15.3						50.6	100.6	**59.3**
MT981210	MT910150/STARK	5		73.4	31.2	52.9	14.5		77.6				49.9	100.4	**59.2**
PI568246	BARONESSE (P+)	9	85.3	62.5	32.2	57.2	14.2		82.4	49.7	66.8	80.5	59.0	100.0	**59.0**
MT010160	MT920041/HARRINGTON	5					15.1		80.0	60.8	67.0	70.2	58.6	99.8	**58.9**
MT960228	ESLICK	9	80.6	63.5	28.1	59.7	11.2		77.2	65.5	68.8	69.2	58.2	98.7	**58.2**
MT950186	HAXBY	9	65.9	66.0	28.9	54.0	12.0		83.7	57.3	69.9	75.8	57.1	96.8	**57.1**
MT970116	CRAFT	8		55.5	29.4	53.1	12.1		81.4	61.2	64.3	67.0	53.0	95.2	**56.1**
SK76333	HARRINGTON	8	71.8	53.5	31.2	54.5	12.8		71.8	63.6	64.6		53.0	94.1	**55.5**
BZ596117	BOULDER (P+)	6			32.9	59.3			91.0	61.8	70.6	76.1	65.3	92.9	**54.8**
MT960101	GERALDINE	9	79.2	56.8	26.8	57.6	13.7		76.5	53.9	58.9	68.4	54.6	92.7	**54.6**
BZ594-19	WPB XENA (P+)	5	65.2		29.0		10.7		73.6	65.4			48.8	92.5	**54.5**
PI491534	GALLATIN	6	63.8	65.5	31.6	52.9	11.3		82.0				51.2	92.0	**54.3**
MT970148	MT861596/ND 11120	5	73.0	59.3	32.3	50.8	15.2						46.1	91.7	**54.1**
PI610264	VALIER (++)	6	71.0	62.4	30.2	54.3	11.6		75.3				50.8	91.3	**53.8**
MT970026	BARONESSE/MT860756	5	64.8	62.8	32.5	60.1	9.3						45.9	91.3	**53.8**
MT910189	HOCKETT (++)	9	57.8	65.8	29.5	51.9	11.0		78.5	51.7	61.7	73.8	53.5	90.8	**53.5**
2B914947	MERIT (P+)	6	71.9	54.9	28.5	49.0	12.1		61.6				46.3	83.3	**49.1**
6B932978	LEGACY (P+)	5		53.8	21.9	51.8	7.9		61.9				39.5	79.4	**46.8**
MEANS (For Entries Listed)			72.3	61.3	30.0	55.1	12.6		77.8	60.7	66.1	72.9			**55.9**
April-July Precip. (in.)			8.78	8.57	6.01	4.81	8.87	8.64	7.37	5.71	7.43	8.09	7.43		
Total Annual Precip. (in.)			12.17	14.3	10.27	8.83	13.29	14.43	11.87	10.29	12.42	12.21	12.01		
Soil NO3 (lbs.) to SD at Planting			172	Pndg	Pndg	Pndg	102	120	184	352	271	157	194		
SD (Sampling Depth in Inches)			48	Pndg	Pndg	48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70	70	70	70	70	70	70	70	70	70		
	(# P2O5)		40	40	40	40	40	40	40	40	40	40	40		
	(# K2O)		25	25	25	25	25	25	25	25	25	25	25		

Long-term check variety is Baronesse.

1/ See MCES Bulletin 1094 or the Plant Sciences & Plant Pathology website at http://plantsciences.montana.edu/ for evaluation of other important variety performance characteristics to include malting potential, disease resistance, etc. before making cultivar selecton decisions.

2/ P = Private Variety, + = Protected Variety, ++ = PVP Title 5 or Title 5 Pending.

3/ Nursery not harvested due to field cleanup combining error.

4/ Percent of Baronesse yield for the same data years as those in which a given entry was tested.

5/ 9-Yr Comparable Average = (x/y) * z where x = average yield of a given entry for years tested, y = average yield for Baronesse for the same years, and z = 9-Yr average yield for the check variety Baronesse.

TABLE 12. Nine-Year Test Weight Summary on Selected Entries from Dryland Intrastate Spring Barley Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (EXP# 2102-SB)

2/ VARIETY or SELECTION		No. of YEARS TESTED	1/ TEST WEIGHT (Pounds Per Bushel) 1999	2000	2001	2002	2003	2004 3/	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK TEST WT 4/	**9-YR COMP. AVE. TEST WT 5/**
MT950186	HAXBY	9	53.1	51.9	49.4	50.4	49.1		50.9	48.7	50.7	52.9	50.8	106.1	**50.8**
MT970116	CRAFT	8		50.8	49.7	50.5	48.8		50.7	48.8	50.0	51.5	50.1	105.6	**50.5**
MT010158	MT920041/HARRINGTON	5					48.9		50.9	46.9	49.6	50.7	49.4	105.1	**50.3**
MT970229	MT890021/STARK	7	52.3	50.6	49.2	50.2	47.4		50.5	48.2			49.8	104.9	**50.2**
BZ596117	BOULDER (P+)	6			47.7	49.2			50.8	48.7	49.3	51.9	49.6	104.1	**49.8**
MT910189	HOCKETT (++)	9	52.5	50.2	48.2	49.7	49.3		48.0	47.5	49.9	52.0	49.7	103.9	**49.7**
MT981210	MT910150/STARK	5		50.1	49.0	49.4	48.3		47.6				48.9	103.4	**49.5**
MT970026	BARONESSE/MT860756	5	52.0	50.0	49.8	49.7	47.4						49.8	102.9	**49.3**
MT010160	MT920041/HARRINGTON	5					47.3		49.1	45.5	47.9	50.6	48.1	102.3	**49.0**
PI491534	GALLATIN	6	51.5	49.0	48.1	48.5	47.7		48.6				48.9	102.1	**48.8**
PI610264	VALIER (++)	6	51.4	49.0	48.5	49.8	46.8		46.9				48.7	101.7	**48.6**
MT960228	ESLICK	9	51.4	49.3	47.7	49.6	46.3		47.1	46.1	48.9	50.1	48.5	101.3	**48.5**
BZ594-19	WPB XENA (P+)	5	51.3		48.4		45.8		45.6	45.1			47.3	100.3	**48.0**
PI568246	BARONESSE (P+)	9	51.2	47.6	48.1	48.9	46.0		45.8	44.5	48.7	49.9	47.9	100.0	**47.9**
MT960101	GERALDINE	9	49.0	47.3	48.6	49.1	47.1		46.1	45.0	47.3	49.9	47.7	99.7	**47.7**
MT970148	MT861596/ND 11120	5	50.9	47.9	46.5	47.1	47.8						48.0	99.3	**47.5**
6B952482	TRADITION (P+)	6				46.8	45.1		46.7	46.4	47.0	49.2	46.9	99.1	**47.4**
MT960099	MANLEY/BARONESSE	5	49.1	47.6	47.3	48.8	46.2						47.8	98.9	**47.3**
SK76333	HARRINGTON	8	49.1	46.8	46.2	48.4	45.5		44.9	44.6	47.2		46.6	97.9	**46.8**
2B914947	MERIT (P+)	6	49.0	46.8	46.6	47.3	44.4		41.4				45.9	95.8	**45.8**
6B932978	LEGACY (P+)	5		43.4	44.7	45.2	45.9		43.3				44.5	94.1	**45.0**
MEANS (For Entries Listed)			51.0	48.6	48.0	48.8	47.1		47.5	46.6	48.8	50.9			**48.5**
April-July Precip. (in.)			8.78	8.57	6.01	4.81	8.87	8.64	7.37	5.71	7.43	8.09	7.43		
Total Annual Precip. (in.)			12.17	14.30	10.27	8.83	13.29	14.43	11.87	10.29	12.42	12.21	12.01		
Soil NO3 (lbs.) to SD at Planting			172	Pndg	Pndg	Pndg	102	120	184	352	271	157	194		
SD (Sampling Depth in Inches)			48	Pndg	Pndg	48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70	70	70	70	70	70	70	70	70	70		
	(# P_2O_5)		40	40	40	40	40	40	40	40	40	40	40		
	(# K_2O)		25	25	25	25	25	25	25	25	25	25	25		

Long-term check variety is Baronesse.

1/ See MCES Bulletin 1094 or the Plant Sciences & Plant Pathology website at http://plantsciences.montana.edu/ for evaluation of other important variety performance characteristics to include malting potential, disease resistance, etc. before making cultivar selecton decisions.

2/ P = Private Variety, + = Protected Variety, ++ = PVP Title 5 or Title 5 Pending.

3/ Nursery not harvested due to field cleanup combining error.

4/ Percent of Baronesse test weight for the same data years as those in which a given entry was tested.

5/ 9-Yr Comparable Average = (x/y) * z where x = average test weight of a given entry for years tested, y = average test weight for Baronesse for the same years, and z = 9-Yr average test weight for the check variety Baronesse.

TABLE 13. Montana Safflower Cultivar Evaluation Nursery Grown On-Station Under No-Till Dryland Fallow Conditions at Northern Agricultural Research Center. Havre, Montana. 2008. (Exp# 08-7702-SA)

ENTRY	CULTIVAR or SELECTION	STAND %	1/ FLWR DATE	PLNT HT Inches	YIELD Lbs/Ac	MOIST %	TEST WT Lbs/Bu	OIL % 0%Mois.	OIL % 8%Mois.	OIL Lbs/Ac 8%Mois.
26	HYBRID 9049	92.8	210.7	22.9	2263.5	5.1	41.6	37.3	34.3	776.9
4	02B 6081	78.0	213.3	22.3	2201.2	5.3	41.4	39.7	36.5	802.4
27	HYBRID 1601	88.9	209.0	22.5	2178.2	5.3	44.2	33.1	30.4	662.8
6	03B 1149	82.0	213.7	21.5	2177.8	5.3	43.3	40.5	37.3	811.5
3	01B 7113	94.9	211.0	20.6	2094.3	4.6	37.7	41.0	37.7	791.7
29	MT 2000	88.0	212.0	18.7	2080.1	5.1	40.9	41.5	38.2	793.7
15	05B 6053	91.9	210.7	19.5	2070.3	4.9	38.8	41.1	37.8	785.1
10	04B 6262	81.5	214.0	21.9	2056.7	5.3	41.0	38.4	35.3	726.4
9	04B 6027	89.4	212.7	18.7	2047.6	4.7	39.2	41.7	38.4	785.7
16	05B 6081	94.2	210.3	19.6	2030.1	4.6	38.1	41.6	38.3	779.9
7	03B 3565	77.3	212.7	20.1	2023.2	5.3	42.2	39.6	36.5	737.1
5	02B 6655	87.5	211.7	18.9	2018.7	4.4	38.2	43.2	39.7	806.3
25	CW1221	96.0	210.3	21.8	2004.9	4.9	39.6	43.6	40.1	804.3
11	04B 6301	85.7	212.0	19.8	2001.6	4.7	38.8	41.8	38.5	771.7
2	01B 2159	92.6	210.7	21.1	2001.5	5.1	41.8	41.6	38.3	765.0
35	FINCH	86.8	211.7	23.3	1977.3	5.2	44.1	37.5	34.5	681.7
31	MT 2004	91.5	209.3	19.9	1967.1	5.1	41.2	38.4	35.3	693.9
8	03B 6184	92.1	212.0	21.8	1905.2	5.4	42.2	38.8	35.7	678.2
18	05B 6553	91.2	210.7	20.9	1888.3	4.4	37.9	46.1	42.4	795.9
22	06B 3216	92.1	210.7	20.2	1869.2	4.7	38.0	41.1	37.8	707.2
1	97B 1286	90.8	211.7	22.7	1859.7	4.9	40.5	40.2	36.9	688.2
14	05B 3401	95.4	210.7	20.8	1805.8	4.8	38.0	40.9	37.6	682.3
36	CARDINAL	90.3	212.7	25.5	1774.1	5.4	42.6	36.6	33.7	598.1
28	MONDAK	95.8	211.7	23.1	1765.9	5.2	42.7	37.6	34.6	611.0
20	06B 1016	90.1	215.3	23.5	1760.3	5.2	39.5	39.6	36.5	641.8
13	05B 3232	93.5	208.7	20.3	1730.3	4.4	38.5	44.2	40.7	703.5
24	CW99-OL	95.1	210.0	22.5	1730.0	5.0	39.5	41.0	37.7	651.9
30	MT 2003	92.4	212.7	19.8	1724.4	5.0	41.2	39.7	36.5	631.0
23	06B 3318	84.0	212.0	21.5	1723.4	5.0	41.7	40.2	37.0	637.5
34	MORLIN	85.7	214.3	21.2	1723.4	4.9	41.4	40.5	37.2	641.6
33	CENTENNIAL	84.3	213.7	22.2	1682.2	5.2	41.7	45.3	41.7	700.9
17	05B 6162	94.0	208.7	22.3	1669.2	4.3	38.2	45.6	42.0	700.2
21	06B 3159	96.3	210.0	20.2	1654.6	4.2	37.7	45.3	41.6	688.7
12	05B 1058	96.0	209.3	21.4	1521.8	4.7	38.7	42.7	39.3	597.0
19	05B 6570	87.5	213.3	24.4	1294.8	4.3	38.1	47.7	43.9	569.0
32	NUTRASAFF	88.4	212.0	22.7	1156.5	4.4	37.9	48.5	44.6	515.2
EXPERIMENTAL MEANS		89.8	211.6	21.4	1873.1	4.9	40.2	41.2	37.9	706.0
LSD (0.05)		5.6	1.5	2.5	353.3	0.3	1.2	1.7	1.5	139.2
C.V.2: (S of MEAN / MEAN)*100		2.2	0.3	4.1	6.7	1.9	1.1	1.4	1.4	7.0

1/No. Days from January 1 (212 = July 30)

Site Resource & Management Data: (Exp# 08-7702-SA)							
Field	An-3-5		SaltHaz(MMHOS/cm) 6-24	0.68		Dry Surf Soil (in.) @ Plnt'g	1.00
Quarter	NW		S (ppm) 0-24	298		2" Soil Temp (^{o}F) @ Plnt'g	62
Section	33		Zn (ppm) 0-6	0.43		4" Soil Temp (^{o}F) @ Plnt'g	58
Township	32N		Fe (ppm) 0-6	10.3		Fertilizer Formulation	Gran Blend
Range	15E		Mn (ppm) 0-6	4.04		Fertilizer Placement	Bnd at Plntg
Latitude	N48 29.400'		Cu (ppm) 0-6	1.1		Fert. Rate (lbs/ac) N	0
Longitude	W109 478.865'		CEC 0-6	26.5		Fert. Rate (lbs/ac) P2O5	45
Soil Series	Kevin CLm		Soil Texture 0-6	CL		Fert. Rate (lbs/ac) K2O	0
pH 0-6	8.1		Soil Texture 6-24	CL		Herbicide App. Date	4/1
Org.Matter (%) 0-6	1.3		Soil Texture 24-36	CL		Herbicide Product	Sonolan
N (lbs/ac) 0-6	31		Soil Texture 36-48	CL		Herbicide Rate (/ac)	32 oz
N (lbs/ac) 6-24	216		Init PAW (in.) 0-6"	0.5		Precip (in.) Plnt'g-Harvest	9.87
N (lbs/ac) 24-36	320		Init PAW (in.) 6-24"	3.6		Precip (>.1) Plnt'g-Harvest	8.92
N (lbs/ac) 36-48	98		Init PAW (in.) 24-36"	2.1		Harvest Date	10/2
N (lbs/ac) 0-48	665		Init PAW (in.) 36-48"	1.6		Rooting Depth (in.)	n/a
P (ppm) Olsen 0-6	21		Init PAW (in.) 0-48"	7.8		Post PAW (in.) 0-6"	0.82
K (ppm) 0-6	365		Cropping System	CT-MechFlw		Post PAW (in.) 6-24"	2.20
Ca (ppm)	4179		Previous Crop	SB		Post PAW (in.) 24-36"	-
Mg (ppm) 0-6	558		Planting Date	5/2		Post PAW (in.) 36-48"	-
Na (ppm) 0-6	23		Planting Depth (in.)	1		Post PAW (in.) 0-48"	3.01
SaltHaz (MMHOS/cm) 0-6	0.49		Moist Soil Depth @ Plnt'g	48+		Precip (>.1) Hvst-Post	0

TABLE 14. Nine-Year Yield Summary on Selected Entries from Dryland Safflower Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (Exp# 7702-SA)

VARIETY or SELECTION		No. of YEARS TESTED	YIELD (Lbs Per Acre) 1999	2000	2001 1/	2002	2003	2004	2005	2006	2007	2008	AVE. for YEARS TESTED	% of CHECK YIELD 2/	**9-Yr COMP. AVE. YIELD 3/**
HYBRID 9049	HYBRID 9049	4							1509.9	1433.7	1988.3	2263.5	1798.8	127.5	**1625.1**
WILL	MONTOLA 2004 (++)	7				1617.1	448.8	1257.3	1392.6	1158.3	1669.3	1967.1	1358.6	105.5	**1345.0**
02B 6081	02B 6081	5						1175.4	1344.9	968.1	1403.0	2201.2	1418.5	104.7	**1334.5**
WILL 95FI	FINCH	9	1267.5	1516.3		1383.7	564.1	1276.5	1214.2	1082.4	1583.2	1977.3	1318.4	103.5	**1318.4**
01B 2159	01B 2159	3								1096.9	1494.0	2001.5	1530.8	102.9	**1311.8**
011-2180	MORLIN (++)	9	1342.4	1313.2		1839.9	495.0	1359.6	1194.4	1013.9	1311.1	1723.4	1288.1	101.1	**1288.1**
01B 7113	01B 7113	4							1227.9	982.3	1354.7	2094.3	1414.8	100.3	**1278.2**
WILL	MONTOLA 2000 (++)	9	1152.1	1163.5		1787.3	479.2	1113.7	1160.5	1018.2	1540.0	2080.1	1277.2	100.2	**1277.2**
WILL	CENTENNIAL (++)	9	1034.6	1423.6		1744.7	493.5	1130.6	1181.1	1257.3	1521.9	1682.2	1274.4	100.0	**1274.4**
02B 6655	02B 6655	4							1155.0	826.6	1529.7	2018.7	1382.5	98.0	**1249.0**
02B 8599	02B 8599	4						1040.4	1453.4	997.8	1491.4		1245.7	97.9	**1247.3**
WILL	S-541	5				1848.6	413.9	1202.1	1061.7	1068.3			1118.9	96.3	**1227.7**
02B 8628	02B 8628	3							1274.5	1013.3	1513.8		1267.2	96.0	**1223.3**
01B 9104	01B 9104	3							1150.6	1027.0	1524.7		1234.1	93.5	**1191.4**
Will WOMA2003	MONTOLA 2003 (++)	9	1311.4	758.9		1715.2	468.2	1110.2	1226.1	882.8	1301.2	1724.4	1166.5	91.5	**1166.5**
02B 6381	02B 6381	3						1088.9		891.8	1186.1		1055.6	81.0	**1032.2**
91B3842	NUTRASAF (++)	9	879.4	833.1		1585.8	211.2	1048.9	1036.2	823.9	1210.3	1156.5	976.1	76.6	**976.1**
99MTDSVT 224/1	ERLIN	7	882.3	759.0		1262.5	360.4	1376.7	828.3	817.4			898.1	76.1	**969.3**
MEANS (For Entries Listed)			1124.2	1109.7		1642.8	437.1	1181.7	1213.2	1020.0	1476.4	1907.5			**1240.9**
April-July Precip. (in.)			8.57	6.01		8.87	7.07	8.64	7.37	5.71	7.43	8.09	7.53		
Total Annual Precip. (in.)			14.30	10.27		13.29	11.54	14.43	11.90	10.29	12.42	12.21	12.29		
Soil NO3 (lbs.) to SD at Planting			n/a	n/a		n/a	78	214	708	157	154	665	329		
SD (Sampling Depth in Inches)			Pndg	Pndg		48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70		70	70	70	50	0	0	0	44		
	(# P2O5)		40	40		40	40	40	20	40	45	40	38		
	(# K2O)		25	25		25	25	25	10	0	0	0	15		

Long-term check variety is Centennial.

1/ The 2001 nursery was destroyed in October due to extreme stand variablity caused by severe drought conditions prior to planting and throughout the growing season.

2/ 9-Yr Comparable Average = (x/y) * z where x = average yield of a given entry for years tested, y = average yield for Centennial for the same years, and z = 9-Yr average yield for the check variety Centennial.

3/ Percent of Centennial yield for the same data years as those in which a given entry was tested.

TABLE 15. Eight-Year Percent Oil Summary on Selected Entries from Dryland Safflower Nursery. Northern Agricultural Research Center. Havre, Montana. 1999-2008. (Exp# 7702-SA)

VARIETY or SELECTION		No. of YEARS TESTED	Oil (%) @ 8% Seed Moisture										AVE. for YEARS TESTED	% of CHECK TEST WT 2/	**8-Yr COMP. AVE. TEST WT 3/**
			1999 1/	2000	2001 1/	2002	2003	2004	2005	2006	2007	2008			
91B3842	NUTRASAF (++)	8		41.6		39.4	46.2	44.9	43.8	43.2	48.5	44.6	44.0	108.8	**44.0**
WILL	S-541	5				37.0	41.2	40.5	39.5	39.7			39.6	100.6	**40.7**
WILL	CENTENNIAL (++)	8		41.3		37.2	40.1	40.1	39.5	39.9	43.9	41.7	40.4	100.0	**40.4**
02B 6381	02B 6381	3						42.2		35.1	43.3		40.2	97.3	**39.4**
02B 6655	02B 6655	4							39.9	37.8	42.1	39.7	39.9	96.8	**39.1**
01B 7113	01B 7113	4							40.6	38.4	41.1	37.7	39.5	95.7	**38.7**
99MTDSVT 224/1	ERLIN	6		39.7		34.7	36.4	37.7	37.3	36.2			37.0	93.2	**37.7**
WILL	MONTOLA 2000 (++)	8		37.5		32.7	38.7	37.3	37.9	35.7	38.6	38.2	37.1	91.6	**37.1**
011-2180	MORLIN (++)	8		38.9		33.8	37.3	37.1	36.4	36.9	39.3	37.2	37.1	91.7	**37.1**
02B 6081	02B 6081	5						35.7	36.6	35.0	37.7	36.5	36.3	88.6	**35.8**
Will WOMA2003	MONTOLA 2003 (++)	8		36.7		32.4	37.8	34.9	36.2	34.8	36.8	36.5	35.8	88.5	**35.8**
01B 2159	01B 2159	3								34.5	35.9	38.3	36.3	86.7	**35.1**
WILL	MONTOLA 2004 (++)	7				32.0	37.2	35.5	35.5	33.9	35.8	35.3	35.0	86.8	**35.1**
WILL 95FI	FINCH	8		37.5		32.4	34.5	34.5	35.0	35.5	36.5	34.5	35.0	86.6	**35.0**
02B 8628	02B 8628	3							34.7	34.5	36.7		35.3	85.9	**34.8**
02B 8599	02B 8599	4						33.6	34.2	32.6	35.9		34.1	83.4	**33.8**
01B 9104	01B 9104	3							33.8	33.3	34.9		34.0	82.7	**33.5**
HYBRID 9049	HYBRID 9049	4							31.9	31.0	32.1	34.3	32.3	78.5	**31.7**
MEANS (For Entries Listed)				39.0		34.6	38.8	37.8	37.1	36.0	38.7	37.9			**36.9**
April-July Precip. (in.)			8.57	6.01		8.87	7.07	8.64	7.37	5.71	7.43	8.09	7.53		
Total Annual Precip. (in.)			14.30	10.27		13.29	11.54	14.43	11.90	10.29	12.42	12.21	12.29		
Soil NO3 (lbs.) to SD at Planting			n/a	n/a		n/a	78	214	708	157	154	665	329		
SD (Sampling Depth in Inches)			Pndg	Pndg		48	48	48	48	48	48	48	48		
Fertilizer Applied	(# N)		70	70		70	70	70	50	0	0	0	44		
	(# P2O5)		40	40		40	40	40	20	40	45	40	38		
	(# K2O)		25	25		25	25	25	10	0	0	0	15		

Long-term check variety is Centennial.

1/ The 1999 oil results not reported. The 2001 nursery was destroyed in October due to extreme stand variablitycaused by severe drought conditions prior to planting and throughout the growing season.

2/ 8-Yr Comparable Average = (x/y) * z where x = average oil of a given entry for years tested, y = average oil for Centennial for the same years, and z = 8-Yr average oil for the check variety Centennial.

3/ Percent of Centennial oil for the same data years as those in which a given entry was tested.