

**A MOTION TO RELEASE MT 9929 HARD RED SPRING WHEAT,
EFFECTIVE 2004**

MT 9929 is to be released as a public variety.

MT 9929 is an F₄ derived line first entered in the 1998 single row yield trial at Bozeman, and first designated as "MT 9929" when entered in the preliminary spring wheat yield nursery grown at four dryland locations in 1999. In 2000, 2001 and 2002 it has been tested for 28 station years in the advanced spring wheat nursery grown across Montana. It was also entered in the 2002 Uniform regional hard red spring wheat nursery grown at Bozeman and Sidney.

MT 9929 is derived from the cross of MT9401/MT9328 made in 1995. MT 9401 was from a cross of MT8603/Amidon and MT9328 was a cross from MT7810/MT7926. MT 8603, MT7810 and MT7926 were lines generated in the breeding program to derive solid stems, but were dropped from the testing program. MT 9929 has very solid stems comparable to Fortuna, over four years at Bozeman from a total score of 25 being completely solid, MT 9929 scored 22.1, Fortuna 19.8 while Ernest had stems totaling 14.9. Nurseries where sawfly cutting was noted show MT 9929 resisting sawfly damage better than Ernest and almost as good as Fortuna.

Across 28 location years, MT 9929 yielded 66 bu/ac compared to McNeal at 68 bu/ac. On six dryland sites over three years, MT 9929 averaged a yield of 43 bu/ac compared to 46, 44, 40 and 38 bu/ac yields from Reeder, McNeal, Ernest and Fortuna respectively. Under irrigation, MT 9929 averaged 90 bu/ac, McNeal and Reeder yielded 89 bu/ac each, Ernest yielded about 74 bu/ac and Fortuna produced only 71 bu/ac. Overall test weights were 60.2, 60.6 and 59.7 bu/ac for MT 9929, Ernest, and McNeal respectively. Across locations MT 9929 heads about 2 days earlier than McNeal and about .5 days later than Ernest and Fortuna. MT 9929 stands at 28.5 inches about two inches shorter than McNeal and 4 inches less than Fortuna and Ernest. MT 9929's grain protein averaged 15.6%, as compared to 15.1 % for McNeal and 15.3% for Fortuna and 15.9% Ernest.

MT 9929 has exhibited good straw strength with resistance to lodging. MT 9929 has shown good resistance to prevalent races of stem rust in inoculated nurseries at Bozeman. In a nursery grown at Sidney in 2001, Bill Grey noted that MT 9929 had moderate resistance to Septoria scoring better than Fortuna and similar to McNeal and Ernest. MT 9929 also exhibited low incidence of Septoria at Bozeman under irrigation in 2002.

MT 9929 has acceptable milling and baking quality traits.

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TABLES OF PAIRED T-TEST RESULTS

YIELD (BU/AC)

REFERENCE MEAN: MCNEAL 66.3 (N= 28)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
CI 13596	FORTUNA	55.6	28	-10.7	-5.8	.000
CI 17430	NEWANA	64.9	28	-1.4	-1.2	.244
PI549275	HI-LINE	62.7	28	-3.6	-3.7	.001
PI527682	AMIDON	63.5	28	-2.8	-2.1	.048
PI592761	ERNEST	62.3	28	-4.0	-2.9	.007
PI607557	SCHOLAR	64.1	28	-2.2	-1.4	.175
WB 926	WESTBRED 926	63.7	28	-2.6	-1.8	.088
BZ992588	Conan	60.1	28	-6.2	-5.3	.000
ND 695	Reeder	68.3	28	2.0	1.5	.145
MT 9874	OUTLOOK	69.2	28	2.9	2.3	.031
MT 9929	MT9401/MT9328	65.7	28	-.6	-.7	.499

TEST WEIGHT (LB/BU)

REFERENCE MEAN: MCNEAL 59.7 (N= 28)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
CI 13596	FORTUNA	60.1	28	.4	1.4	.169
CI 17430	NEWANA	59.7	28	.0	.2	.874
PI549275	HI-LINE	59.7	28	.0	.1	.960
PI527682	AMIDON	59.8	28	.2	.8	.435
PI592761	ERNEST	60.6	28	1.0	5.6	.000
PI607557	SCHOLAR	60.8	28	1.1	5.1	.000
WB 926	WESTBRED 926	59.2	28	-.5	-2.1	.043
BZ992588	Conan	60.4	28	.7	3.9	.000
ND 695	Reeder	60.6	28	1.0	5.1	.000
MT 9874	OUTLOOK	59.1	28	-.5	-3.7	.001
MT 9929	MT9401/MT9328	60.2	28	.5	2.7	.011

HEADING DATE (JULIAN DAYS;176= JUNE 25)

REFERENCE MEAN: MCNEAL 176.6 (N= 28)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
CI 13596	FORTUNA	174.9	28	-1.7	-9.6	.000
CI 17430	NEWANA	177.3	28	.7	4.4	.000
PI549275	HI-LINE	173.3	28	-3.3	-14.9	.000
PI527682	AMIDON	175.2	28	-1.4	-7.8	.000
PI592761	ERNEST	175.0	28	-1.6	-7.0	.000
PI607557	SCHOLAR	176.1	28	-.4	-1.8	.081
WB 926	WESTBRED 926	171.8	28	-4.8	-14.3	.000
BZ992588	Conan	173.9	28	-2.7	-10.6	.000
ND 695	Reeder	173.8	28	-2.8	-11.2	.000
MT 9874	OUTLOOK	177.0	28	.4	2.9	.007
MT 9929	MT9401/MT9328	174.5	28	-2.1	-9.6	.000

PLANT HEIGHT (INCHES)

REFERENCE MEAN: MCNEAL 30.5 (N= 28)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
CI 13596	FORTUNA	35.0	28	4.5	10.1	.000
CI 17430	NEWANA	28.8	28	-1.7	-6.6	.000
PI549275	HI-LINE	28.1	28	-2.4	-10.2	.000
PI527682	AMIDON	34.8	28	4.3	8.8	.000
PI592761	ERNEST	34.7	28	4.2	9.5	.000
PI607557	SCHOLAR	33.3	28	2.8	7.3	.000
WB 926	WESTBRED 926	28.0	28	-2.5	-8.2	.000
BZ992588	Conan	28.3	28	-2.2	-8.8	.000
ND 695	Reeder	30.7	28	.2	.8	.445
MT 9874	OUTLOOK	30.9	28	.4	1.9	.075
MT 9929	MT9401/MT9328	28.5	28	-2.0	-8.5	.000

GRAIN PROTEIN (%)

REFERENCE MEAN: MCNEAL 15.1 (N= 27)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
CI 13596	FORTUNA	15.3	27	.2	2.1	.045
CI 17430	NEWANA	14.6	26	-.5	-3.9	.001
PI549275	HI-LINE	15.5	27	.4	2.1	.042
PI527682	AMIDON	15.1	27	.0	.4	.703
PI592761	ERNEST	15.9	27	.8	7.7	.000
PI607557	SCHOLAR	15.7	27	.6	4.8	.000
WB 926	WESTBRED 926	15.7	27	.6	3.9	.000
BZ992588	Conan	15.5	27	.4	2.6	.016
ND 695	Reeder	15.6	27	.5	3.7	.000
MT 9874	OUTLOOK	14.9	27	-.2	-1.6	.124
MT 9929	MT9401/MT9328	15.6	27	.5	3.5	.002

STEM SOLID RATINGS (5=HOLLOW,25=VERY SOLID)

ID	PEDIGREE	2000 BOZ-DRY	2000 BOZ-IRR	2001 BOZ-DRY	2001 BOZ-IRR	2002 BOZ-DRY	2002 BOZ-IRR
PI574642	MCNEAL	6.7	8.6	7.1	8.6	6.5	5.0
CI 10003	THATCHER	6.8	7.0	7.1	6.7	6.0	5.3
CI 13596	FORTUNA	21.7	17.5	20.1	19.9	11.5	9.9
CI 17429	LEW	15.7	14.5	11.6	14.1	NA	NA
CI 17430	NEWANA	7.9	7.0	6.9	8.3	6.0	5.1
PI549275	HI-LINE	6.3	6.6	6.7	7.5	5.7	5.2
PI527682	AMIDON	14.0	12.0	13.9	11.8	8.3	5.4
PI592761	ERNEST	17.1	13.1	14.7	14.8	12.7	9.0
PI607557	SCHOLAR	13.9	13.4	12.4	17.6	8.2	7.9
WB 926	WESTBRED 926	8.9	7.6	7.7	11.3	6.9	5.9
BZ992588	Conan	9.9	10.0	10.3	10.6	8.1	7.1
ND 695	Reeder	6.9	6.0	6.1	8.6	5.4	5.1
MT 9874	OUTLOOK	8.2	8.2	7.3	7.9	7.0	5.0
MT 9929	MT9401/MT9328	21.5	20.9	23.7	22.4	20.4	18.6
BZ992322	HANK	9.1	8.1	9.6	11.0	7.0	5.6
PI619086	EXPLORER	13.6	12.7	12.8	16.1	7.3	7.0
PI612605	MTHW9420	7.4	7.4	10.9	11.5	6.4	5.0

SAWFLY CUTTING RATINGS

ID	PEDIGREE	2002						FORT BENTON
		2000 LOMA OBS. (% PLOT)	2000 LOMA OFF (0-5 SCALE)	2001 LOMA OBS. (0-5 SCALE)	2002 LOMA OBS. (% PLOT)	2002 TURNER (0-5 SCALE)	2002 LORING (0-5 SCALE)	
PI574642	MCNEAL	10	1	2	2	3.30	2.00	16.70
CI 10003	THATCHER	15	NA	2	5	NA	NA	NA
CI 13596	FORTUNA	0	0	0	0	1.30	0.67	1.00
CI 17429	LEW	5	0.33	0	NA	1.00	0.67	1.70
CI 17430	NEWANA	15	1.67	2	15	2.70	2.00	12.70
PI549275	HI-LINE	15	0.67	2	2	3.00	1.20	7.30
PI527682	AMIDON	10	1.67	2	10	2.00	1.20	9.70
PI592761	ERNEST	2	0.33	0	1	2.00	0.83	2.30
PI607557	SCHOLAR	10	1.67	0	15	2.70	1.00	5.70
WB 926	WESTBRED 926	0	0.67	2	5	2.00	1.30	2.30
BZ992588	Conan	5	1	0	0	1.67	1.00	2.30
ND 695	Reeder	20	2.33	3	30	2.30	1.20	9.30
MT 9874	OUTLOOK	0	NA	0	0	1.70	1.20	13.00
MT 9929	MT9401/MT9328	0	NA	0	0	1.70	0.50	1.70
BZ992322	HANK	5	NA	2	30	2.00	1.30	7.30
PI619086	EXPLORER	10	1	0	10	2.70	1.30	6.00
PI612605	MTHW9420	5	2.67	5	5	3.30	2.00	11.70

ID	DISTRICT 1 - KALISPELL				DISTRICT 2 - BOZEMAN IRRIGATED				DISTRICT 2 - BOZEMAN DRYLAND			
	2000	2001	2002	YIELD (BU/AC) AVERAGE	2000	2001	2002	YIELD (BU/AC) AVERAGE	2000	2001	2002	YIELD (BU/AC) AVERAGE
MCNEAL	123.3	121.5	102.0	115.6	87.4	92.0	88.1	89.2	66.6	78.2	69.6	71.5
FORTUNA	111.9	106.8	85.7	101.5	52.7	73.5	72.1	66.1	65.1	69.0	50.5	61.5
NEWANA	126.3	130.0	109.0	121.8	92.0	87.6	82.7	87.4	64.5	72.9	59.8	65.7
HI-LINE	120.9	116.6	95.1	110.9	87.3	85.6	80.1	84.3	67.7	82.3	66.4	72.1
AMIDON	121.7	125.5	87.3	111.5	84.9	76.1	74.7	78.6	66.8	75.1	56.6	66.2
ERNEST	118.7	120.4	95.8	111.6	75.2	78.5	69.8	74.5	65.8	77.3	56.9	66.7
SCHOLAR	122.2	138.6	99.9	120.2	84.6	81.1	65.7	77.1	70.0	74.9	55.8	66.9
WESTBRED 926	128.3	142.1	100.6	123.7	65.4	80.2	82.1	75.9	69.7	72.9	66.1	69.5
CONAN	114.8	104.3	91.6	103.6	71.0	80.1	84.1	78.4	65.3	73.6	68.9	69.2
REEDER	118.1	138.0	109.5	121.9	72.8	90.5	73.4	78.9	72.3	80.1	63.3	71.9
OUTLOOK	124.6	142.5	114.1	127.1	83.9	92.7	73.6	83.4	77.1	80.2	72.8	76.7
MT 9929	115.1	113.8	98.7	109.2	79.6	92.8	93.8	88.7	70.0	78.2	73.6	73.9
AVERAGE	120.5	125.0	99.1	114.9	78.1	84.2	78.3	80.2	68.4	76.2	63.3	69.3
C.V. (S/MEAN %)				5.51				8.67				6.54
LSD (.05)				10.59				11.59				7.59
ID	DISTRICT 3 - HUNTLEY DRYLAND				DISTRICT 3 - HUNTLEY IRRIGATED							
	2000	2001	2002	YIELD (BU/AC) AVERAGE	2000	2001	2002	YIELD (BU/AC) AVERAGE				
MCNEAL	53.4	35.6	9.3	32.8	90.5	110.6	118.5	106.5				
FORTUNA	41.9	25.4	11.4	26.2	93.2	99.2	107.4	99.9				
NEWANA	46.2	35.0	7.8	29.7	96.1	112.4	108.4	105.6				
HI-LINE	57.2	29.0	11.4	32.5	89.7	107.2	110.8	102.5				
AMIDON	49.6	34.5	9.1	31.1	92.2	123.9	117.9	111.3				
ERNEST	42.8	30.9	7.6	27.1	103.3	114.8	117.0	111.7				
SCHOLAR	47.5	32.4	10.3	30.1	101.8	121.1	111.7	111.5				
WESTBRED 926	54.1	22.9	14.0	30.3	89.7	103.6	122.2	105.2				
CONAN	41.7	26.3	11.0	26.3	91.0	101.5	109.5	100.6				
REEDER	48.6	32.7	13.8	31.7	96.5	116.0	125.5	112.6				
OUTLOOK	58.8	29.3	9.8	32.6	99.7	117.0	119.0	111.9				
MT 9929	52.6	28.1	9.8	30.2	95.3	114.9	119.0	109.8				
AVERAGE	49.5	30.2	10.4	30.0	94.9	111.8	115.6	107.4				
C.V. (S/MEAN %)				14.62				5.18				
LSD (.05)				7.33				9.22				

ID	DISTRICT 4 - MOCCASIN		DISTRICT 5 - HAVRE DRYLAND				DISTRICT 5 - CONRAD DRYLAND			
	2001	YIELD (BU/AC) AVERAGE	2000	2001	2002	YIELD (BU/AC) AVERAGE	2000	2001	2002	YIELD (BU/AC) AVERAGE
MCNEAL	47.5	47.5	40.2	18.9	36.3	31.8	38.8	13.4	41.5	31.2
FORTUNA	40.4	40.4	35.9	16.7	28.5	27.0	39.2	14.1	42.8	32.0
NEWANA	38.7	38.7	35.6	21.5	39.1	32.1	46.3	15.1	44.6	35.3
HI-LINE	38.0	38.0	37.6	19.7	38.0	31.7	39.1	12.7	43.7	31.8
AMIDON	43.4	43.4	35.9	22.2	41.4	33.2	35.6	16.1	44.0	31.9
ERNEST	34.3	34.3	37.3	19.6	36.4	31.1	37.5	16.6	45.7	33.3
SCHOLAR	39.9	39.9	38.5	21.0	36.4	32.0	44.8	16.5	43.0	34.8
WESTBRED 926	38.1	38.1	38.0	18.7	29.9	28.9	46.5	13.0	40.9	33.5
CONAN	40.3	40.3	36.0	20.4	33.7	30.1	42.6	15.1	40.8	32.8
REEDER	43.6	43.6	43.3	22.5	34.9	33.6	47.6	17.1	49.1	37.9
OUTLOOK	42.3	42.3	41.0	22.9	44.5	36.1	44.4	15.2	43.0	34.2
MT 9929	38.3	38.3	34.2	19.3	34.9	29.4	40.8	14.2	45.2	33.4
AVERAGE	40.4	40.4	37.8	20.3	36.2	31.4	41.9	14.9	43.7	33.5
C.V. (S/MEAN %)		7.63				7.98				7.34
LSD (.05)		5.27				4.18				4.08

ID	DISTRICT 6 - SIDNEY DRYLAND				DISTRICT 6 - SIDNEY IRRIGATED			
	2000	2001	2002	YIELD (BU/AC) AVERAGE	2000	2001	2002	YIELD (BU/AC) AVERAGE
MCNEAL	60.3	48.2	43.4	50.6	101.6	62.6	56.7	73.6
FORTUNA	54.4	40.1	35.5	43.3	78.3	28.2	37.4	48.0
NEWANA	61.9	53.0	34.3	49.7	89.6	48.6	56.9	65.1
HI-LINE	54.1	39.0	40.1	44.4	87.6	46.5	51.9	62.0
AMIDON	60.6	50.8	40.6	50.7	99.5	45.0	48.0	64.1
ERNEST	56.1	51.1	40.8	49.3	99.7	45.2	49.9	64.9
SCHOLAR	56.1	51.6	41.6	49.7	90.8	45.1	50.9	62.3
WESTBRED 926	58.4	46.3	43.9	49.5	91.2	52.4	51.6	65.1
CONAN	51.0	44.4	39.5	45.0	80.3	56.7	47.3	61.4
REEDER	67.4	54.3	52.5	58.1	111.1	66.8	52.0	76.6
OUTLOOK	63.4	54.8	44.3	54.2	109.9	66.9	49.7	75.5
MT 9929	60.5	55.4	42.8	52.9	102.3	55.0	60.6	72.6
AVERAGE	58.7	49.1	41.6	49.8	95.2	51.6	51.1	65.9
C.V. (S/MEAN %)				6.31				9.01
LSD (.05)				5.23				9.76

ID	DISTRICT 1 - KALISPELL				TEST WEIGHT	DISTRICT 2 - BOZEMAN IRRIGATED				TEST WEIGHT	DISTRICT 2 - BOZEMAN DRYLAND			TEST WEIGHT
	2000	2001	2002	(LB/BU) AVERAGE	(LB/BU) AVERAGE	2000	2001	2002	(LB/BU) AVERAGE	(LB/BU) AVERAGE	2000	2001	2002	(LB/BU) AVERAGE
MCNEAL	62.3	62.5	59.9	61.6	61.8	61.7	62.1	61.9	60.0	59.3	59.6	59.6	59.6	
FORTUNA	63.0	64.3	61.0	62.8	62.0	63.6	62.2	62.6	61.9	61.7	61.3	61.6	61.6	
NEWANA	62.9	61.8	61.1	61.9	60.4	59.7	61.7	60.6	59.2	57.8	59.0	58.7	58.7	
HI-LINE	62.9	63.4	61.3	62.5	62.6	62.3	62.7	62.5	59.8	61.1	57.4	59.4	59.4	
AMIDON	62.2	62.9	60.3	61.8	61.3	61.7	61.4	61.5	60.4	60.0	60.4	60.3	60.3	
ERNEST	63.4	64.2	62.3	63.3	62.2	62.6	62.4	62.4	61.7	61.1	60.2	61.0	61.0	
SCHOLAR	62.7	61.6	61.6	62.0	61.8	62.1	61.8	61.9	60.7	60.6	60.4	60.6	60.6	
WESTBRED 926	62.8	62.6	59.1	61.5	61.3	59.0	61.3	60.5	59.7	58.9	56.4	58.3	58.3	
CONAN	62.3	62.5	61.4	62.1	61.4	61.3	62.8	61.8	61.0	60.3	59.5	60.3	60.3	
REEDER	62.7	61.7	61.8	62.1	61.9	62.7	62.3	62.3	61.7	60.7	60.3	60.9	60.9	
OUTLOOK	61.7	61.9	60.0	61.2	61.0	60.6	60.9	60.8	59.3	59.2	58.9	59.1	59.1	
MT 9929	62.3	62.9	61.4	62.2	61.4	63.1	62.3	62.3	60.6	60.4	59.8	60.3	60.3	
AVERAGE	62.6	62.7	60.9	62.1	61.6	61.7	62.0	61.8	60.5	60.1	59.4	60.0	60.0	

ID	DISTRICT 3 - HUNTLEY DRYLAND				TEST WEIGHT	DISTRICT 3 - HUNTLEY IRRIGATED				TEST WEIGHT
	2000	2001	2002	(LB/BU) AVERAGE	(LB/BU) AVERAGE	2000	2001	2002	(LB/BU) AVERAGE	(LB/BU) AVERAGE
MCNEAL	57.1	59.6	48.0	54.9	59.2	61.9	62.8	61.3	59.2	61.3
FORTUNA	59.0	58.9	50.4	56.1	61.3	61.9	63.1	62.1	61.3	62.1
NEWANA	58.3	60.9	50.0	56.4	59.7	62.2	62.3	61.4	59.7	61.4
HI-LINE	57.8	59.9	46.6	54.8	61.1	61.8	62.1	61.7	61.1	61.7
AMIDON	58.7	60.1	48.7	55.8	61.3	62.5	62.3	62.0	61.3	62.0
ERNEST	59.7	60.5	48.9	56.4	60.5	63.1	62.3	62.0	60.5	62.0
SCHOLAR	60.2	60.9	51.6	57.6	61.4	63.2	62.9	62.5	61.4	62.5
WESTBRED 926	58.6	59.8	48.7	55.7	59.2	62.0	61.5	60.9	59.2	60.9
CONAN	58.6	60.4	49.9	56.3	59.9	62.3	62.5	61.6	59.9	61.6
REEDER	59.4	60.9	50.7	57.0	61.2	63.5	63.2	62.6	61.2	62.6
OUTLOOK	57.8	60.3	47.1	55.1	60.4	61.9	62.3	61.5	60.4	61.5
MT 9929	60.1	59.7	49.6	56.4	58.4	63.6	62.7	61.6	58.4	61.6
AVERAGE	58.8	60.2	49.2	56.0	60.3	62.5	62.5	61.8	60.3	61.8

ID	DISTRICT 4 - MOCCASIN		DISTRICT 5 - HAVRE DRYLAND			TEST WEIGHT (LB/BU)	DISTRICT 5 - CONRAD DRYLAND			TEST WEIGHT (LB/BU)
	2001	TEST WEIGHT (LB/BU) AVERAGE	2000	2001	2002	AVERAGE	2000	2001	2002	AVERAGE
MCNEAL	58.3	58.3	57.4	57.7	60.2	58.5	58.1	60.2	61.9	60.1
FORTUNA	58.6	58.6	59.2	57.2	59.2	58.5	59.8	60.6	61.4	60.6
NEWANA	55.0	55.0	57.7	59.6	62.0	59.8	59.9	62.7	62.4	61.7
HI-LINE	58.1	58.1	56.0	56.4	60.9	57.8	58.7	60.9	62.6	60.7
AMIDON	58.7	58.7	59.1	57.7	59.9	58.9	58.7	61.3	60.7	60.2
ERNEST	58.6	58.6	59.7	58.0	60.1	59.3	59.8	62.3	61.3	61.1
SCHOLAR	58.4	58.4	60.7	59.4	61.2	60.4	60.0	62.3	62.0	61.4
WESTBRED 926	58.1	58.1	56.5	58.3	60.2	58.4	58.3	62.3	61.8	60.8
CONAN	58.6	58.6	59.4	59.5	60.9	59.9	59.7	62.5	61.9	61.4
REEDER	57.7	57.7	60.1	58.2	60.6	59.6	60.5	62.5	61.7	61.6
OUTLOOK	56.6	56.6	56.9	56.9	59.7	57.9	57.1	60.8	60.5	59.5
MT 9929	57.2	57.2	58.5	57.0	60.0	58.5	60.1	61.8	60.8	60.9
AVERAGE	57.8	57.8	58.4	58.0	60.4	58.9	59.2	61.7	61.6	60.8

ID	DISTRICT 6 - SIDNEY DRYLAND			TEST WEIGHT (LB/BU)	DISTRICT 6 - SIDNEY IRRIGATED			TEST WEIGHT (LB/BU)
	2000	2001	2002	AVERAGE	2000	2001	2002	AVERAGE
MCNEAL	61.4	60.0	58.2	59.9	61.1	58.1	60.3	59.9
FORTUNA	61.4	58.5	58.3	59.4	61.4	52.4	59.6	57.8
NEWANA	62.2	60.3	56.0	59.5	59.6	57.2	60.3	59.0
HI-LINE	62.4	60.4	55.2	59.3	60.2	55.6	61.0	58.9
AMIDON	61.7	60.0	54.9	58.9	60.7	57.8	59.6	59.4
ERNEST	63.1	60.6	58.0	60.6	62.3	59.0	59.8	60.4
SCHOLAR	63.0	61.3	57.7	60.6	60.9	59.3	61.8	60.7
WESTBRED 926	61.2	58.4	55.3	58.3	59.1	56.6	59.9	58.6
CONAN	62.0	60.7	58.3	60.3	59.1	59.9	61.5	60.2
REEDER	62.0	60.9	58.3	60.4	60.6	59.4	61.1	60.4
OUTLOOK	61.0	59.8	57.2	59.3	59.1	57.8	59.4	58.8
MT 9929	62.6	60.6	57.0	60.1	61.9	59.2	61.0	60.7
AVERAGE	62.0	60.1	57.0	62.0	60.1	57.0	59.7	60.5

ID	DISTRICT 1 - KALISPELL				DISTRICT 2 - BOZEMAN IRRIGATED				DISTRICT 2 - BOZEMAN DRYLAND			
	2000	2001	2002	HEADING DATE AVERAGE	2000	2001	2002	HEADING DATE AVERAGE	2000	2001	2002	HEADING DATE AVERAGE
MCNEAL	172	177	184	178	179	178	186	181	180	176	186	181
FORTUNA	173	175	184	177	178	176	184	179	177	174	185	179
NEWANA	175	176	186	179	180	179	187	182	180	178	187	182
HI-LINE	171	174	179	175	176	175	183	178	175	172	183	177
AMIDON	173	176	185	178	177	175	184	179	177	175	185	179
ERNEST	172	175	186	178	177	175	183	178	178	175	184	179
SCHOLAR	173	176	186	179	178	177	186	180	179	175	186	180
WESTBRED 926	165	173	177	171	174	173	183	177	174	172	183	176
CONAN	170	175	179	175	177	175	184	179	176	173	183	177
REEDER	172	174	180	176	175	175	184	178	177	174	184	178
OUTLOOK	174	179	186	179	181	180	186	182	181	177	187	182
MT 9929	171	175	181	175	177	177	183	179	176	173	184	178
AVERAGE	172	175	183	177	177	176	184	179	178	175	185	179

ID	DISTRICT 3 - HUNTLEY DRYLAND				DISTRICT 3 - HUNTLEY IRRIGATED			
	2000	2001	2002	HEADING DATE AVERAGE	2000	2001	2002	HEADING DATE AVERAGE
MCNEAL	166	162	175	168	163	169	174	169
FORTUNA	164	160	172	166	160	168	172	167
NEWANA	168	163	175	168	162	170	175	169
HI-LINE	162	158	171	164	158	165	170	164
AMIDON	164	160	174	166	161	167	172	167
ERNEST	165	161	175	167	160	167	172	167
SCHOLAR	164	161	174	166	159	167	173	167
WESTBRED 926	159	157	170	162	155	162	170	162
CONAN	162	159	171	164	158	165	171	165
REEDER	161	159	173	164	159	163	171	164
OUTLOOK	166	162	175	168	163	168	175	169
MT 9929	163	160	173	165	158	167	173	166
AVERAGE	164	160	173	166	160	167	172	166

ID	DISTRICT 4 - MOCCASIN		DISTRICT 5 - HAVRE DRYLAND				DISTRICT 5 - CONRAD DRYLAND			
	HEADING DATE		HEADING DATE				HEADING DATE			
	2001	AVERAGE	2000	2001	2002	AVERAGE	2000	2001	2002	AVERAGE
MCNEAL	179	179	177	175	188	180	179	176	186	180
FORTUNA	175	175	174	173	187	178	179	174	185	179
NEWANA	180	180	178	175	188	180	179	176	187	181
HI-LINE	177	177	173	173	187	178	177	173	183	178
AMIDON	177	177	175	175	187	179	178	175	186	180
ERNEST	177	177	173	174	187	178	179	175	186	180
SCHOLAR	179	179	175	176	189	180	180	176	188	181
WESTBRED 926	176	176	172	172	187	177	174	173	182	176
CONAN	178	178	173	175	188	179	178	174	185	179
REEDER	176	176	173	173	187	178	178	174	183	178
OUTLOOK	180	180	176	174	188	180	179	176	186	180
MT 9929	177	177	175	174	187	179	179	174	186	180
AVERAGE	178	178	175	174	187	179	178	175	185	179

ID	DISTRICT 6 - SIDNEY DRYLAND				DISTRICT 6 - SIDNEY IRRIGATED			
	HEADING DATE				HEADING DATE			
	2000	2001	2002	AVERAGE	2000	2001	2002	AVERAGE
MCNEAL	168	175	182	175	165	182	184	177
FORTUNA	165	173	181	173	162	181	182	175
NEWANA	169	176	182	176	165	184	184	178
HI-LINE	164	172	180	172	160	180	182	174
AMIDON	166	175	181	174	163	181	183	175
ERNEST	165	173	181	173	162	180	182	175
SCHOLAR	168	175	182	175	163	183	183	177
WESTBRED 926	161	170	178	170	160	178	180	173
CONAN	164	173	179	172	162	181	182	175
REEDER	164	174	181	173	161	180	182	174
OUTLOOK	169	175	182	175	165	182	184	177
MT 9929	164	173	180	173	162	181	182	175
AVERAGE	166	174	181	173	163	181	183	175

ID	DISTRICT 1 - KALISPELL				DISTRICT 2 – BOZEMAN IRRIGATED				DISTRICT 2 – BOZEMAN DRYLAND			
	2000	2001	2002	PLANT HT. (IN.) AVERAGE	2000	2001	2002	PLANT HT. (IN.) AVERAGE	2000	2001	2002	PLANT HT. (IN.) AVERAGE
MCNEAL	32.4	33.4	32.7	32.9	39.1	34.5	38.9	37.5	35.3	33.2	35.5	34.6
FORTUNA	41.0	38.5	35.5	38.3	45.6	38.3	40.3	41.4	42.4	37.5	45.1	41.7
NEWANA	30.7	30.6	30.0	30.4	36.0	32.8	36.7	35.2	33.3	31.0	33.8	32.7
HI-LINE	30.4	31.6	28.8	30.3	35.3	29.9	34.8	33.3	33.4	28.9	33.8	32.0
AMIDON	38.2	39.4	36.4	38.0	43.1	40.2	45.5	42.9	42.2	37.6	46.0	41.9
ERNEST	36.9	38.2	35.1	36.7	42.7	41.2	46.9	43.6	42.0	36.9	44.1	41.0
SCHOLAR	35.5	35.6	34.4	35.2	41.9	38.1	43.6	41.2	38.6	36.4	44.2	39.8
WESTBRED 926	30.2	32.0	27.1	29.8	35.5	30.6	37.0	34.3	32.3	30.0	32.5	31.6
CONAN	29.9	31.8	28.9	30.2	36.0	31.9	35.9	34.6	33.7	30.3	33.1	32.4
REEDER	32.2	35.5	32.1	33.3	39.4	34.7	39.8	37.9	37.7	31.6	36.6	35.3
OUTLOOK	33.2	33.7	31.7	32.9	40.2	35.9	37.7	37.9	36.2	32.2	35.9	34.8
MT 9929	31.5	30.6	29.5	30.5	35.3	31.6	36.4	34.4	33.4	30.5	35.5	33.1
AVERAGE	33.5	34.2	31.9	33.2	39.2	35.0	39.4	37.9	36.7	33.0	38.0	35.9

ID	DISTRICT 3 - HUNTLEY DRYLAND				DISTRICT 3 - HUNTLEY IRRIGATED			
	2000	2001	2002	PLANT HT. (IN.) AVERAGE	2000	2001	2002	PLANT HT. (IN.) AVERAGE
MCNEAL	31.2	22.9	23.0	25.7	34.1	34.4	37.1	35.2
FORTUNA	35.8	25.8	28.1	29.9	39.7	41.9	43.8	41.8
NEWANA	26.5	24.5	20.9	24.0	32.5	33.6	34.3	33.5
HI-LINE	28.2	21.1	22.9	24.1	30.9	32.4	33.7	32.4
AMIDON	34.6	24.1	25.0	27.9	37.2	40.8	44.4	40.8
ERNEST	35.8	26.1	23.6	28.5	39.8	40.8	45.5	42.0
SCHOLAR	33.7	24.6	24.8	27.7	36.3	38.6	42.5	39.1
WESTBRED 926	29.5	19.1	24.3	24.3	29.6	32.2	34.0	31.9
CONAN	27.6	19.7	21.3	22.9	32.2	31.5	34.8	32.8
REEDER	31.0	20.8	24.1	25.3	33.7	35.6	39.8	36.4
OUTLOOK	31.8	25.8	20.9	26.2	35.0	36.1	37.7	36.3
MT 9929	28.6	19.5	21.3	23.1	31.6	34.1	35.9	33.9
AVERAGE	31.2	22.8	23.3	25.8	34.4	36.0	38.6	36.3

ID	DISTRICT 4 - MOCCASIN		DISTRICT 5 - HAVRE DRYLAND			PLANT HT.	DISTRICT 5 - CONRAD DRYLAND			PLANT HT.
	2001	PLANT HT (IN.) AVERAGE	2000	2001	2002	(IN.) AVERAGE	2000	2001	2002	(IN.) AVERAGE
MCNEAL	31.3	31.3	30.7	18.2	24.2	24.4	29.0	21.0	28.0	26.0
FORTUNA	34.0	34.0	32.8	19.4	24.9	25.7	36.0	23.0	33.0	30.7
NEWANA	29.9	29.9	27.2	19.5	23.5	23.4	28.0	19.0	26.0	24.3
HI-LINE	30.3	30.3	27.3	18.1	22.7	22.7	27.0	19.0	26.0	24.0
AMIDON	34.6	34.6	32.1	19.1	26.4	25.9	33.0	22.0	32.0	29.0
ERNEST	33.2	33.2	32.1	20.1	25.7	25.9	34.0	22.0	33.0	29.7
SCHOLAR	31.9	31.9	31.7	19.1	25.5	25.4	32.0	21.0	30.0	27.7
WESTBRED 926	28.0	28.0	28.3	18.2	21.9	22.8	28.0	20.0	27.0	25.0
CONAN	33.4	33.4	27.8	17.5	22.5	22.6	29.0	20.0	26.0	25.0
REEDER	30.8	30.8	30.2	19.1	23.3	24.2	29.0	20.0	29.0	26.0
OUTLOOK	30.6	30.6	28.5	19.3	24.1	24.0	30.0	22.0	28.0	26.7
MT 9929	29.3	29.3	26.2	17.4	23.0	22.2	28.0	19.0	26.0	24.3
AVERAGE	31.5	31.5	29.6	18.7	24.0	24.1	30.3	20.7	28.7	26.5

ID	DISTRICT 6 - SIDNEY DRYLAND				DISTRICT 6 - SIDNEY IRRIGATED			
	2000	2001	2002	PLANT HT. (IN.) AVERAGE	2000	2001	2002	PLANT HT. (IN.) AVERAGE
MCNEAL	28.9	27.9	25.9	27.6	36.5	26.5	27.7	30.2
FORTUNA	33.2	30.5	30.6	31.4	37.7	31.9	32.9	34.2
NEWANA	28.1	26.8	23.1	26.0	34.3	25.7	28.2	29.4
HI-LINE	27.3	25.5	24.0	25.6	32.2	24.5	26.5	27.7
AMIDON	32.4	31.5	27.8	30.6	37.1	34.3	36.2	35.8
ERNEST	32.0	31.3	29.1	30.8	37.6	32.0	34.7	34.8
SCHOLAR	31.9	31.5	28.9	30.8	35.2	30.0	34.7	33.3
WESTBRED 926	26.8	22.8	23.9	24.5	31.8	26.0	26.1	28.0
CONAN	26.4	23.9	23.4	24.5	32.5	26.0	25.6	28.1
REEDER	28.2	26.7	25.6	26.8	35.9	28.5	27.8	30.7
OUTLOOK	30.1	28.0	26.1	28.1	36.6	27.5	30.4	31.5
MT 9929	26.7	25.5	24.4	25.5	32.4	25.1	28.7	28.7
AVERAGE	29.3	27.7	26.1	27.7	35.0	28.2	30.0	31.0

ID	DISTRICT 1 - KALISPELL			DISTRICT 2 - BOZEMAN IRRIGATED				DISTRICT 2 - BOZEMAN DRYLAND			
	2000	2002	PROTEIN (%) AVERAGE	2000	2001	2002	PROTEIN (%) AVERAGE	2000	2001	2002	PROTEIN (%) AVERAGE
MCNEAL	15.4	14.8	15.1	14.9	15.6	15.0	15.2	15.7	14.7	15.8	15.4
FORTUNA	15.3	14.5	14.9	15.3	14.7	15.2	15.1	15.9	14.3	15.6	15.3
NEWANA	14.1	13.1	13.6	13.5	14.1	13.1	13.6	15.0	14.6	14.4	14.7
HI-LINE	15.5	13.6	14.6	14.5	14.3	13.8	14.2	15.7	14.7	15.8	15.4
AMIDON	15.1	14.7	14.9	15.3	14.8	15.1	15.1	15.9	14.6	15.5	15.3
ERNEST	15.9	14.9	15.4	16.7	15.7	15.9	16.1	16.4	15.2	16.7	16.1
SCHOLAR	15.6	15.1	15.4	15.4	15.4	15.6	15.5	16.5	15.4	16.0	16.0
WESTBRED 926	15.2	14.2	14.7	15.0	15.3	14.9	15.1	16.1	14.6	16.0	15.6
CONAN	15.3	15.1	15.2	15.5	14.6	14.7	14.9	16.3	14.8	15.5	15.5
REEDER	15.8	15.4	15.6	15.3	16.0	15.8	15.7	16.3	15.3	16.0	15.9
OUTLOOK	14.6	13.5	14.1	14.1	15.1	15.2	14.8	14.5	14.6	15.9	15.0
MT 9929	15.9	14.4	15.2	15.7	14.8	15.0	15.2	16.9	14.7	15.5	15.7
AVERAGE	15.3	14.4	14.9	15.1	15.0	14.9	15.0	15.9	14.8	15.7	15.5

	DISTRICT 3 - HUNTLEY DRYLAND				DISTRICT 3 - HUNTLEY IRRIGATED			
	2000	2001	2002	PROTEIN (%) AVERAGE	2000	2001	2002	PROTEIN (%) AVERAGE
MCNEAL	18.0	14.9	19.4	17.4	14.8	13.5	12.9	13.7
FORTUNA	17.9	15.1	19.7	17.6	15.3	14.8	14.1	14.7
NEWANA	17.7	15.4	20.0	17.7	14.9	12.8	12.7	13.5
HI-LINE	17.7	17.0	22.2	19.0	13.8	14.9	13.6	14.1
AMIDON	17.2	15.7	19.2	17.4	13.9	14.4	13.4	13.9
ERNEST	18.0	16.0	20.0	18.0	16.8	13.8	13.9	14.8
SCHOLAR	17.6	15.7	20.0	17.8	15.5	14.0	13.8	14.4
WESTBRED 926	17.6	15.9	22.2	18.6	15.1	14.8	14.7	14.9
CONAN	16.4	17.0	19.5	17.6	15.4	14.9	14.2	14.8
REEDER	17.1	17.2	19.6	18.0	15.4	13.8	14.4	14.5
OUTLOOK	16.5	13.7	19.0	16.4	14.2	13.8	12.9	13.6
MT 9929	17.4	17.4	19.3	18.0	17.1	13.3	13.7	14.7
AVERAGE	17.4	15.9	20.0	17.8	15.2	14.1	13.7	14.3

ID	DISTRICT 4 - MOCCASIN		DISTRICT 5 - HAVRE DRYLAND				DISTRICT 5 - CONRAD DRYLAND					
	PROTEIN (%)		2000	2001	2002	PROTEIN (%)		2000	2001	2002	PROTEIN (%)	
	2001	AVERAGE				AVERAGE	AVERAGE					
MCNEAL	16.2	16.2	15.7	17.0	15.7	16.1	14.5	14.8	13.5	14.3		
FORTUNA	16.4	16.4	15.6	16.6	16.5	16.2	15.0	15.3	13.8	14.7		
NEWANA	16.2	16.2	15.7	16.3	15.2	15.7	14.3	14.7	13.8	14.3		
HI-LINE	18.4	18.4	17.9	17.8	16.1	17.3	15.3	16.5	14.6	15.5		
AMIDON	17.7	17.7	15.4	16.6	15.3	15.8	14.8	15.2	13.5	14.5		
ERNEST	18.0	18.0	16.8	18.5	16.5	17.3	16.0	15.2	14.5	15.2		
SCHOLAR	19.3	19.3	15.6	17.8	16.5	16.6	14.8	15.1	13.9	14.6		
WESTBRED 926	18.1	18.1	16.4	17.1	16.9	16.8	15.6	15.4	14.1	15.0		
CONAN	16.8	16.8	16.1	17.1	16.6	16.6	14.6	15.3	14.4	14.8		
REEDER	17.0	17.0	15.5	17.0	16.4	16.3	14.1	14.3	13.7	14.0		
OUTLOOK	16.9	16.9	16.5	16.7	15.6	16.3	14.5	14.8	13.7	14.3		
MT 9929	17.3	17.3	16.6	18.2	16.3	17.0	14.6	16.4	14.1	15.0		
AVERAGE	17.4	17.4	16.2	17.2	16.1	16.5	14.8	15.3	14.0	14.7		

ID	DISTRICT 6 - SIDNEY DRYLAND				DISTRICT 6 - SIDNEY IRRIGATED			
	PROTEIN (%)				PROTEIN (%)			
	2000	2001	2002	AVERAGE	2000	2001	2002	AVERAGE
MCNEAL	13.4	14.7	15.8	14.6	14.1	16.1	10.4	13.5
FORTUNA	13.1	15.1	15.4	14.5	14.3	16.8	11.6	14.2
NEWANA	12.7	0.0	15.1	13.9	13.8	14.8	10.6	13.1
HI-LINE	13.6	14.8	15.9	14.8	14.9	15.9	10.7	13.8
AMIDON	14.0	14.3	15.4	14.6	15.1	15.6	10.9	13.9
ERNEST	14.5	15.8	15.8	15.4	15.4	16.4	10.7	14.2
SCHOLAR	14.9	15.1	16.1	15.4	14.9	16.4	11.1	14.1
WESTBRED 926	14.4	14.8	16.0	15.1	14.6	16.6	11.5	14.2
CONAN	14.2	15.2	16.4	15.3	14.7	15.4	11.4	13.8
REEDER	14.1	15.6	15.6	15.1	15.4	16.4	12.1	14.6
OUTLOOK	14.3	15.2	15.4	15.0	15.1	15.5	10.0	13.5
MT 9929	14.5	14.9	16.3	15.2	14.6	15.9	11.2	13.9
AVERAGE	14.0	13.8	15.8	14.9	14.7	16.0	11.0	13.9

2000- 2001 MILLING AND BAKING QUALITY EVALUATION FOR MT 9929 COMPARED TO SELECTED SPRING WHEATS GROWN IN THE ADVANCED SPRING WHEAT NURSERY (8 LOCATION AVERAGE)

	GRAIN PROTEIN (%)	FLOUR PROTEIN (%)	FLOUR YIELD (%)	FLOUR ASH (%)	MIXOGRAPH TOLERANCE (1=WEAK-5=VERY STRONG)	BAKE ABSORPTION (%)	LOAF VOLUME (CC)
McNEAL	15.2	12.6	66	.42	5	75	1165
FORTUNA	15.3	12.6	68	.44	3	73	1083
NEWANA	14.5	12.3	63	.40	3.5	73	1156
HI-LINE	15.4	12.8	63	.42	4.5	75	1210
AMIDON	15.2	12.9	69	.43	3.5	73	1077
ERNEST	16.5	13.5	69	.40	3.5	76	1167
SCHOLAR	15.5	13.3	69	.44	3.5	74	1099
WESTBRED 926	15.5	12.9	67	.44	4	73	1143
CONAN	15.4	12.5	64	.40	4	74	1120
REEDER	16.0	13.2	67	.37	3.5	73	1092
OUTLOOK	15.4	13.0	68	.42	3.5	74	1103
MT 9929	15.9	13.1	66	.37	3.5	73	1105
NURSERY AVERAGE	15.1	12.6	66	.41	4	74	1125