

PROJECT TITLE: Statewide Spring Wheat Variety Performance - 2000

PROJECT LEADER:

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PROJECT PERSONNEL:

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OBJECTIVE: To evaluate new and existing varieties and experimental lines of spring wheat under various growing conditions and environments in Montana.

RESULTS: The 2000 Advanced Spring Wheat yield trial was grown at three irrigated and seven rainfed sites across Montana. The nursery at Moccasin suffered severe hail damage and was not harvested. Irrigated sites were at Sidney, Huntley, and Bozeman. Kalispell was considered high-rainfall site. Replicated multiple-row plots were established at all locations using standard research techniques.

Summaries of yield, heading date, plant height at maturity, test weights, and grain protein contents are shown in Tables 1,2, 3, 4, and 5, respectively

SUMMARY: Highest yielding lines on a statewide basis were MT9874, General Mills HR2, and MTHW0002. Highest yielding varieties at individual sites were Reeder at **Havre**, MTHW9804 at **Huntley dryland**, Reeder at **Conrad**, Reeder at **Sidney dryland**, MTHW9701 at **Bozeman dryland**, General Mills HR1 at **Sidney irrigated**, MT9931 at **Huntley irrigated**, General Mills HR2 at **Bozeman irrigated**, and MTHW0004 at **Kalispell** (high rainfall).

FUTURE PLANS: New and existing varieties and experimental lines will continue to be evaluated at Bozeman and the Research Centers in Montana, so that breeders can release improved varieties and producers can have information on varieties best adapted to conditions in their areas.

Table 1. 2000 yield (bu/ac) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
BR 2306	GENERAL MILLS BR2306	39.52	59.09	84.47	45.35	53.58	98.91	67.25	85.75	122.60	72.9	31	0.95	0.98
BZ992322	HANK	41.73	61.70	98.05	46.39	57.42	104.86	72.69	91.78	121.10	77.3	4	0.98	0.99
BZ992588	CONAN	36.00	50.98	80.34	42.62	41.67	91.00	65.26	70.99	114.83	66.0	61	0.91	0.97
BZ994484	WB926/WB936	37.48	57.01	95.63	41.64	57.84	93.95	69.94	72.65	115.43	71.3	43	0.91	0.97
BZ996472	BZ992-634/GOLDEN86	37.81	51.19	83.90	40.48	51.29	89.90	68.19	72.45	103.20	66.5	59	0.80	0.98
CI 10003	THATCHER	30.44	51.44	76.24	33.43	48.91	81.73	54.43	63.87	110.67	61.2	64	0.88	0.97
CI 13596	FORTUNA	35.88	54.37	78.32	39.24	41.88	93.15	65.06	52.73	111.87	63.6	63	0.87	0.89
CI 17429	LEW	35.54	55.27	77.70	38.74	47.95	86.69	63.32	65.75	121.13	65.8	62	0.92	0.95
CI 17430	NEWANA	35.64	61.86	89.61	46.30	46.16	96.10	64.45	91.98	126.27	73.2	26	1.03	0.97
GMHR1	GENERAL MILLS GM50001	35.52	58.49	111.53	39.82	56.03	91.46	73.98	63.58	116.27	71.9	38	0.97	0.89
GMHR2	GENERAL MILLS GM50002	36.84	61.68	98.27	43.67	52.10	105.53	71.46	101.59	128.17	77.7	2	1.11	0.98
GMHW1	GENERAL MILLS GM40001	34.60	56.24	100.12	41.71	51.14	89.82	75.30	91.82	125.23	74.0	20	1.05	0.97
GMHW2	GENERAL MILLS GM40002	40.35	56.16	81.20	44.71	60.48	81.04	71.08	72.95	121.10	69.9	51	0.82	0.93
GMHW3	GENERAL MILLS GM40003	42.12	58.06	93.48	44.40	60.72	104.35	69.63	58.87	124.20	72.9	30	0.94	0.89
MT 9706	PONDERA/MT8849	38.93	59.54	94.02	38.60	44.30	85.32	68.84	81.50	134.13	71.7	40	1.08	0.96
MT 9712	PONDERA//MT8603/Pondera	40.86	55.36	99.24	42.55	55.38	96.04	73.89	81.78	127.07	74.7	14	1.02	0.99
MT 9719	LEW/MT8849	41.57	56.66	79.58	42.49	53.96	89.15	67.79	78.80	130.00	71.1	46	0.95	0.94
MT 9739	Amidon//Glenman/Amidon	35.21	56.96	109.21	40.04	49.92	104.27	67.27	78.80	118.97	73.4	23	1.08	0.96
MT 9748	MT8849/PONDERA	38.73	55.25	93.58	40.18	51.73	103.21	69.67	86.48	122.80	73.5	22	1.04	0.99
MT 9755	MTRWA141/PONDERA	37.98	53.63	93.09	38.52	59.24	107.63	62.55	97.64	116.47	74.1	19	1.03	0.94
MT 9806	MINNPRO/AMIDON	35.67	58.12	101.76	42.21	55.27	102.48	71.24	85.59	123.17	75.1	10	1.06	1.00
MT 9874	RGABC199/MT9312	40.99	63.43	109.89	44.43	58.81	99.69	77.12	83.87	124.63	78.1	1	1.02	0.98
MT 9905	MT9311/MT9328	35.25	57.83	92.67	37.87	50.06	102.92	67.72	93.88	118.50	73.0	28	1.05	0.98
MT 9912	MT9328/MT9401	34.33	50.96	93.53	39.23	43.02	93.05	64.26	78.35	97.63	66.0	60	0.87	0.95
MT 9913	MT9328/MT9401	35.21	52.16	91.59	39.92	44.01	106.39	61.59	79.03	95.77	67.3	56	0.89	0.89
MT 9918	MT9328/MT9419	37.68	60.25	97.08	38.91	57.77	108.03	67.18	87.13	123.17	75.2	8	1.06	0.98
MT 9923	MT9401/MT9311	38.27	51.97	96.89	43.55	44.01	108.77	67.90	94.76	127.50	74.8	13	1.14	0.97
MT 9925	MT9401/MT9328	34.11	53.11	96.97	38.55	47.90	95.02	67.14	59.89	112.97	67.3	55	0.96	0.93
MT 9929	MT9401/MT9328	34.16	60.50	102.29	40.79	52.56	95.32	70.00	79.56	115.13	72.3	33	0.98	0.98
MT 9931	MT9401/MT9328	37.79	56.51	93.82	41.01	50.14	109.46	70.55	90.70	117.00	74.1	18	1.03	0.97
MT 9937	MT9401/MT9328	36.38	51.71	92.68	37.08	51.36	104.50	67.50	84.45	99.03	69.4	52	0.90	0.92
MT 9954	MCNEAL/KS27//MCNEAL	37.76	60.44	106.44	35.89	53.85	92.65	71.21	87.21	125.17	74.5	15	1.07	0.97
MT 9955	MCNEAL/KS27//MCNEAL	36.75	56.06	102.68	41.51	56.73	87.46	70.55	96.81	128.70	75.2	7	1.06	0.95
MT 9956	MCNEAL/KS27//MT9311	35.97	57.36	91.69	41.66	58.11	95.44	70.40	81.21	110.77	71.4	41	0.89	0.99

(continued)

Table 1 (continued). 2000 yield (bu/ac) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
MT 9958	MCNEAL/KS27//MT9311	33.81	53.62	90.65	40.07	44.70	106.09	64.72	84.34	111.20	69.9	50	1.01	0.96
MT 9959	MCNEAL/KS27//MT9311	33.70	49.20	85.84	37.15	45.63	97.37	65.66	83.05	113.87	67.9	54	1.00	0.99
MT 9960	MCNEAL/KS27//MT9311	36.35	53.65	87.02	37.27	49.91	104.96	69.15	91.08	128.60	73.1	27	1.12	0.98
MTHW0001	MTHW9520/MTHW9427	35.42	54.20	91.61	32.59	54.98	93.17	67.10	92.75	131.13	72.6	32	1.12	0.97
MTHW0002	MTHW9520/MTHW9427	32.95	66.67	99.42	38.02	57.70	99.44	71.10	93.77	139.23	77.6	3	1.18	0.98
MTHW0003	MTHW9520/MTHW9427	35.45	55.33	93.90	41.54	56.39	96.46	68.15	81.76	130.70	73.3	24	1.07	0.99
MTHW0004	MTHW9520/MTHW9427	36.77	56.47	89.45	35.55	49.31	101.40	69.95	100.46	141.37	75.6	5	1.23	0.97
MTHW9420	MT8182/MT8289	38.72	62.49	83.43	42.53	47.35	85.70	73.95	74.77	139.57	72.1	35	1.04	0.91
MTHW9701	CYMMIT204//MT8182/Fortu	35.84	55.51	95.26	45.01	53.26	96.73	76.80	89.74	119.67	74.2	17	0.99	0.98
MTHW9710	MT8182/Fortun//Pondera/M	41.62	54.93	83.45	42.64	55.49	83.87	72.07	81.56	120.40	70.7	49	0.87	0.96
MTHW9716	Klasic/Pomdera//Pondera/M	37.44	53.63	90.82	39.66	52.66	101.70	71.57	83.24	117.07	72.0	36	0.99	0.99
MTHW9804	SRHW13/3/PI372129/Ponder a	38.61	53.98	90.24	40.53	62.22	92.56	74.81	94.55	121.03	74.3	16	0.96	0.96
MTHW9901	MT9311/MTHW9417	37.44	57.14	94.77	38.59	50.16	108.18	69.59	90.93	126.37	74.8	12	1.12	0.99
MTHW9904	MTHW9417/MT9311	37.27	57.98	86.17	40.33	54.66	99.78	67.70	83.79	122.00	72.2	34	0.99	0.99
MTHW9905	MTHW9417/MTHW9430	35.46	55.57	94.85	39.44	59.19	92.94	68.60	89.47	123.37	73.2	25	1.02	0.99
MTHW9906	MTHW9417/MTHW9430	31.80	49.17	87.45	32.72	53.04	85.15	59.30	91.39	109.93	66.7	58	0.96	0.95
MTHW9908	CAN1/MT8182 (HW952014)	33.87	55.64	99.21	41.11	54.58	99.08	72.82	93.54	125.33	75.0	11	1.09	0.99
MTHW9915	CAN1/MT8182 (HW952097)	31.70	58.96	98.50	37.18	55.03	101.35	71.58	94.85	126.57	75.1	9	1.13	0.99
MTRWA116	PI372129/2*PONDERA	33.01	49.26	79.03	36.05	49.72	101.34	64.33	79.96	111.53	67.1	57	0.97	0.97
ND 690	ARGENT	37.14	55.36	95.21	39.06	50.84	80.05	61.93	70.34	122.67	68.1	53	0.96	0.95
ND 694	PARSHALL	42.37	58.35	105.43	41.57	57.56	93.20	64.38	69.63	112.57	71.7	39	0.89	0.93
ND 695	REEDER	43.30	67.38	111.13	47.58	48.63	96.47	72.31	72.75	118.13	75.3	6	0.94	0.92
PI486139	KLASIC	36.67	56.44	75.34	32.39	58.89	79.41	70.77	90.11	139.80	71.1	45	1.05	0.86
PI527682	AMIDON	35.91	60.63	99.45	35.60	49.63	92.18	66.75	84.92	121.73	71.9	37	1.04	0.98
PI549275	HI-LINE	37.55	54.10	87.56	39.07	57.18	89.69	67.65	87.32	120.87	71.2	44	0.96	0.98
PI574642	McNEAL	40.24	60.26	101.59	38.76	53.38	90.48	66.62	87.42	123.30	73.6	21	1.01	0.98
PI592761	ERNEST	37.26	56.06	99.74	37.51	42.79	103.27	65.82	75.24	118.67	70.7	48	1.06	0.97
PI607557	SCHOLAR	38.46	56.08	90.76	44.81	47.54	101.81	69.96	84.55	122.17	72.9	29	1.01	0.99
SLW97606	SLW97606	38.13	56.67	96.16	43.72	51.22	88.71	64.72	81.37	116.53	70.8	47	0.93	0.99
WB 926	WESTBRED 926	38.01	58.37	91.24	46.50	54.13	89.70	69.68	65.35	128.30	71.3	42	0.95	0.93
	SITE MEAN	36.96	56.48	93.16	40.28	52.24	96.06	68.53	82.63	120.85	71.9		1.00	1.00
	C.V.	5.34	5.37	4.15	7.87	8.57	9.12	3.99	5.79	8.16				
	LSD (.05)	3.38	5.14	6.45	5.40	7.67	14.74	4.63	8.05	15.93				

Table 2. 2000 heading date (days from Jan 1) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
BR 2306	GENERAL MILLS BR2306	174.2	163.8	160.6	179.0	162.0	158.0	179.0	178.0	170.3	169.4	28	1.14	1.00
BZ992322	HANK	172.9	161.3	160.0	178.0	161.0	156.7	174.0	175.0	168.7	167.5	9	1.05	0.99
BZ992588	CONAN	173.5	163.8	161.6	178.0	161.7	158.3	176.0	177.0	169.7	168.8	21	1.02	1.00
BZ994484	WB926/WB936	169.6	160.9	159.2	176.0	158.0	154.7	171.0	173.0	164.0	165.1	3	0.99	0.97
BZ996472	BZ992-634/GOLDEN86	172.2	162.9	159.5	177.0	160.0	156.0	173.0	175.0	167.3	167.0	8	1.02	0.98
CI 10003	THATCHER	178.8	169.0	167.0	181.0	165.4	162.0	180.0	180.0	175.7	173.2	62	0.98	0.99
CI 13596	FORTUNA	174.5	165.2	162.1	179.0	164.0	160.0	177.0	178.0	172.7	170.3	40	0.99	0.99
CI 17429	LEW	179.1	168.6	166.4	181.0	166.3	162.0	180.0	181.0	174.7	173.2	63	1.00	0.99
CI 17430	NEWANA	177.6	168.9	165.2	179.0	167.6	162.0	180.0	180.0	175.0	172.8	60	0.92	0.98
GMHR1	GENERAL MILLS GM50001	175.8	164.5	165.4	178.0	160.0	158.0	175.0	177.0	167.0	169.0	22	0.99	0.93
GMHR2	GENERAL MILLS GM50002	183.5	169.3	169.9	181.0	165.0	161.7	181.0	181.0	173.0	173.9	64	1.02	0.91
GMHW1	GENERAL MILLS GM40001	179.4	165.8	164.7	180.0	164.1	161.3	179.0	179.0	171.7	171.7	52	1.03	0.97
GMHW2	GENERAL MILLS GM40002	170.1	160.7	158.5	172.0	158.0	154.0	179.0	172.0	162.0	165.1	4	1.06	0.89
GMHW3	GENERAL MILLS GM40003	169.8	159.3	158.2	173.0	158.0	154.0	173.0	173.0	163.3	164.6	1	1.01	0.98
MT 9706	PONDERA/MT8849	176.0	167.8	165.5	179.0	164.7	161.0	178.0	178.0	171.7	171.3	48	0.91	1.00
MT 9712	PONDERA//MT8603/Pondera	173.9	164.5	161.8	179.0	164.0	158.0	178.0	178.0	174.0	170.1	36	1.07	0.98
MT 9719	LEW/MT8849	175.4	166.0	163.1	178.0	162.7	159.7	178.0	177.0	171.3	170.1	37	0.98	0.99
MT 9739	Amidon//Glenman/Amidon	172.5	164.9	163.2	177.0	162.3	158.0	177.0	177.0	172.3	169.4	29	0.98	0.99
MT 9748	MT8849/PONDERA	175.0	166.0	163.2	177.0	164.6	159.7	177.0	178.0	172.0	170.3	41	0.93	0.99
MT 9755	MTRWA141/PONDERA	174.9	163.4	162.0	177.0	161.3	158.0	176.0	175.0	169.7	168.6	16	0.99	0.99
MT 9806	MINNPRO/AMIDON	173.9	164.5	162.2	179.0	162.7	159.0	177.0	177.0	172.0	169.7	34	1.02	1.00
MT 9874	RGABC199/MT9312	176.2	168.7	165.1	179.0	166.0	162.7	181.0	181.0	174.0	172.6	59	0.95	0.98
MT 9905	MT9311/MT9328	178.5	169.4	166.7	179.0	166.4	161.3	183.0	180.0	173.7	173.1	61	0.99	0.97
MT 9912	MT9328/MT9401	174.2	165.4	163.9	178.0	163.3	160.0	178.0	175.0	172.0	170.0	35	0.91	0.98
MT 9913	MT9328/MT9401	172.2	165.7	163.4	179.0	163.4	159.7	178.0	178.0	171.3	170.1	38	0.97	0.98
MT 9918	MT9328/MT9419	171.6	163.8	160.6	176.0	161.0	156.0	176.0	175.0	170.0	167.8	11	1.01	0.99
MT 9923	MT9401/MT9311	175.6	168.8	164.8	180.0	166.4	162.3	179.0	180.0	174.3	172.4	57	0.92	0.99
MT 9925	MT9401/MT9328	175.0	166.0	162.3	178.0	163.4	159.3	179.0	178.0	172.7	170.4	44	1.03	0.99
MT 9929	MT9401/MT9328	174.6	164.5	162.5	179.0	163.0	158.0	176.0	177.0	171.0	169.5	31	1.02	0.99
MT 9931	MT9401/MT9328	175.1	165.8	163.7	180.0	161.7	160.0	177.0	177.0	172.3	170.3	42	1.00	0.98
MT 9937	MT9401/MT9328	170.9	163.3	161.1	176.0	161.3	158.0	175.0	175.0	171.0	168.0	12	0.93	0.98
MT 9954	MCNEAL/KS27//MCNEAL	177.1	167.8	166.2	179.0	165.7	162.3	179.0	180.0	173.3	172.3	56	0.91	0.99
MT 9955	MCNEAL/KS27//MCNEAL	177.7	166.8	164.0	178.0	164.0	162.0	179.0	178.0	172.0	171.3	49	0.94	0.98
MT 9956	MCNEAL/KS27//MT9311	174.8	166.7	162.1	178.0	163.6	158.0	178.0	180.0	172.3	170.4	45	1.06	0.98

(continued)

Table2 (continued). 2000 heading date (days from Jan 1) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
MT 9958	MCNEAL/KS27//MT9311	176.3	168.4	164.5	181.0	165.4	161.3	181.0	181.0	173.3	172.5	58	1.04	0.99
MT 9959	MCNEAL/KS27//MT9311	175.6	167.2	164.7	180.0	165.0	160.3	178.0	179.0	173.3	171.5	50	0.97	0.99
MT 9960	MCNEAL/KS27//MT9311	177.2	168.5	165.2	180.0	164.3	161.3	181.0	180.0	172.3	172.2	54	1.02	0.99
MTHW0001	MTHW9520/MTHW9427	174.5	163.6	160.6	178.0	162.7	158.0	177.0	173.0	170.0	168.6	17	0.99	0.97
MTHW0002	MTHW9520/MTHW9427	173.4	162.9	160.3	178.0	162.3	158.0	178.0	178.0	170.7	169.1	24	1.10	0.99
MTHW0003	MTHW9520/MTHW9427	176.6	166.5	163.9	181.0	165.7	161.3	178.0	178.0	173.3	171.6	51	0.97	0.99
MTHW0004	MTHW9520/MTHW9427	174.4	163.2	160.5	178.0	162.6	157.0	175.0	175.0	169.0	168.3	13	1.02	0.99
MTHW9420	MT8182/MT8289	172.9	163.0	160.7	178.0	162.1	158.0	177.0	176.0	169.7	168.6	18	1.04	1.00
MTHW9701	CYMMIT204//MT8182/Fortu	174.8	164.0	161.4	178.0	162.3	159.0	177.0	178.0	171.3	169.5	32	1.05	1.00
MTHW9710	MT8182/Fortun//Pondera/M	171.6	161.6	160.0	177.0	160.0	156.0	174.0	174.0	168.3	166.9	7	1.02	0.99
MTHW9716	Klasic/Pomdera//Pondera/M	171.9	161.1	160.0	177.0	160.0	155.7	173.0	173.0	166.3	166.4	6	1.00	0.98
MTHW9804	SRHW13/3/PI372129/Ponder a	172.1	163.7	160.9	177.0	160.0	157.3	174.0	175.0	168.3	167.6	10	0.98	0.99
MTHW9901	MT9311/MTHW9417	176.1	166.0	163.1	183.0	164.0	160.0	179.0	178.0	172.0	171.2	47	1.09	0.98
MTHW9904	MTHW9417/MT9311	174.2	164.8	160.9	178.0	162.7	158.0	177.0	177.0	171.3	169.3	26	1.04	0.99
MTHW9905	MTHW9417/MTHW9430	172.2	164.1	161.5	178.0	162.0	158.0	177.0	175.0	170.0	168.6	19	0.99	0.99
MTHW9906	MTHW9417/MTHW9430	175.5	164.3	161.8	179.0	162.3	158.0	178.0	177.0	170.7	169.6	33	1.09	1.00
MTHW9908	CAN1/MT8182 (HW952014)	174.7	164.2	162.9	179.0	163.7	158.7	177.0	177.0	167.0	169.3	27	1.00	0.97
MTHW9915	CAN1/MT8182 (HW952097)	174.9	164.0	162.1	178.0	163.1	158.3	177.0	177.0	170.3	169.4	30	1.02	1.00
MTRWA116	PI372129/2*PONDERA	171.6	163.8	161.2	177.0	162.4	158.0	176.0	176.0	168.7	168.3	14	0.96	0.99
ND 690	ARGENT	173.0	164.7	161.6	178.0	162.3	159.0	177.0	176.0	171.0	169.2	25	0.98	0.99
ND 694	PARSHALL	172.2	163.8	161.5	178.0	160.7	157.0	176.0	176.0	172.3	168.6	20	1.05	0.98
ND 695	REEDER	173.2	164.2	161.3	178.0	161.4	158.7	177.0	175.0	172.3	169.0	23	1.00	0.98
PI486139	KLASIC	170.6	159.8	158.4	173.0	158.0	155.0	172.0	172.0	163.0	164.6	2	0.96	0.98
PI527682	AMIDON	174.8	165.8	162.8	178.0	163.7	160.7	177.0	177.0	173.0	170.3	43	0.93	0.99
PI549275	HI-LINE	172.8	163.9	160.4	177.0	161.7	158.0	175.0	176.0	170.7	168.4	15	0.99	1.00
PI574642	McNEAL	177.1	168.1	165.0	179.0	165.7	163.0	180.0	179.0	172.3	172.1	53	0.91	0.99
PI592761	ERNEST	173.1	165.4	161.7	179.0	165.4	160.3	178.0	177.0	172.3	170.2	39	0.95	0.97
PI607557	SCHOLAR	175.0	167.7	163.4	180.0	163.9	159.0	179.0	178.0	173.3	171.0	46	1.03	0.99
SLW97606	SLW97606	178.5	167.8	164.8	179.0	165.6	160.3	179.0	180.0	174.7	172.2	55	1.00	0.98
WB 926	WESTBRED 926	172.0	160.7	159.8	174.0	158.7	155.0	174.0	174.0	164.7	165.9	5	1.02	0.98
	SITE MEAN	174.50	165.00	162.53	178.20	162.84	158.91	177.25	177.03	170.84	169.7		1.00	1.00
	C.V.	0.66	0.35	0.37	1 REP	0.51	0.40	1 REP	1 REP	0.84				
	LSD (.05)	1.97	0.97	1.01		1.37	1.04			2.32				

Table 3. 2000 height (inches) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
BR 2306	GENERAL MILLS BR2306	29.8	28.4	33.8	29.0	30.5	32.1	36.7	40.3	31.8	32.5	30	1.21	0.96
BZ992322	HANK	28.5	26.2	31.3	28.0	27.6	32.4	32.8	35.3	29.8	30.2	58	0.89	0.91
BZ992588	CONAN	27.8	26.4	32.5	29.0	27.6	32.2	33.7	36.0	29.9	30.6	51	0.99	0.94
BZ994484	WB926/WB936	29.7	28.6	32.4	29.0	31.3	32.2	34.3	36.2	31.0	31.6	37	0.77	0.96
BZ996472	BZ992-634/GOLDEN86	28.2	27.4	32.0	29.0	27.9	30.4	33.3	36.3	29.6	30.5	53	0.90	0.94
CI 10003	THATCHER	32.4	36.1	42.0	37.0	38.3	43.1	44.7	47.5	42.6	40.4	1	1.40	0.86
CI 13596	FORTUNA	32.8	33.2	37.7	36.0	35.8	39.7	42.4	45.6	41.0	38.2	2	1.27	0.88
CI 17429	LEW	33.4	35.3	39.7	34.0	35.9	37.8	42.2	44.1	40.0	38.1	3	1.12	0.90
CI 17430	NEWANA	27.2	28.1	34.3	28.0	26.5	32.5	33.3	36.0	30.7	30.7	48	1.00	0.84
GMHR1	GENERAL MILLS GM50001	29.6	27.5	36.0	28.0	30.9	31.1	34.7	37.0	29.8	31.6	36	1.00	0.83
GMHR2	GENERAL MILLS GM50002	25.4	27.3	34.7	27.0	27.2	30.2	33.3	34.7	29.5	29.9	62	1.02	0.83
GMHW1	GENERAL MILLS GM40001	27.2	27.1	33.2	28.0	27.6	31.1	32.9	35.1	27.8	30.0	61	0.91	0.87
GMHW2	GENERAL MILLS GM40002	29.5	27.5	30.9	29.0	31.7	27.5	34.8	36.6	30.2	30.9	47	0.81	0.68
GMHW3	GENERAL MILLS GM40003	28.8	26.9	31.6	30.0	31.3	32.2	34.2	35.6	30.6	31.2	43	0.79	0.90
MT 9706	PONDERA/MT8849	31.3	31.9	38.8	32.0	31.3	35.3	38.4	41.5	35.0	35.1	9	1.13	0.91
MT 9712	PONDERA//MT8603/Pondera	31.9	27.9	35.5	32.0	33.4	34.4	39.5	41.2	36.7	34.7	12	1.23	0.90
MT 9719	LEW/MT8849	30.5	26.8	33.3	28.0	30.3	30.8	34.0	36.6	29.0	31.0	46	0.89	0.83
MT 9739	Amidon//Glenman/Amidon	31.9	33.1	37.3	34.0	35.0	37.4	40.6	41.2	37.3	36.4	7	0.98	0.94
MT 9748	MT8849/PONDERA	30.2	28.9	36.5	31.0	30.5	34.2	36.6	40.5	33.6	33.5	20	1.18	0.97
MT 9755	MTRWA141/PONDERA	28.1	25.5	31.6	28.0	30.1	31.1	33.8	35.8	30.6	30.5	52	0.96	0.95
MT 9806	MINNPRO/AMIDON	29.7	29.1	34.2	30.0	29.2	33.9	34.7	37.5	31.4	32.2	32	0.91	0.93
MT 9874	RGABC199/MT9312	28.5	30.1	36.6	30.0	31.8	35.0	36.2	40.2	33.2	33.5	19	1.17	0.94
MT 9905	MT9311/MT9328	29.1	30.4	34.7	32.0	32.1	33.0	36.5	38.3	32.4	33.2	22	0.88	0.93
MT 9912	MT9328/MT9401	31.5	28.7	35.1	32.0	33.6	33.1	37.4	38.1	32.3	33.5	18	0.87	0.88
MT 9913	MT9328/MT9401	30.2	28.6	34.9	31.0	32.1	34.9	37.8	38.0	32.0	33.3	21	1.01	0.94
MT 9918	MT9328/MT9419	31.2	31.6	35.3	32.0	32.2	34.5	38.2	40.2	35.2	34.5	14	0.97	0.97
MT 9923	MT9401/MT9311	29.2	29.2	35.2	32.0	32.2	34.3	36.4	37.6	31.9	33.1	24	0.90	0.92
MT 9925	MT9401/MT9328	30.8	29.7	35.9	33.0	33.0	33.2	38.6	40.6	35.2	34.4	15	1.08	0.94
MT 9929	MT9401/MT9328	26.2	26.7	32.4	28.0	28.6	31.6	33.4	35.3	31.5	30.4	55	0.97	0.95
MT 9931	MT9401/MT9328	28.8	28.8	32.4	30.0	30.7	32.1	35.2	38.1	31.4	31.9	34	0.94	0.96
MT 9937	MT9401/MT9328	28.6	26.2	31.0	29.0	30.5	29.9	33.1	34.3	32.9	30.6	50	0.71	0.78
MT 9954	MCNEAL/KS27//MCNEAL	30.9	31.4	36.9	30.0	31.5	35.6	37.1	40.6	34.2	34.3	17	1.09	0.93
MT 9955	MCNEAL/KS27//MCNEAL	28.0	27.9	34.1	28.0	30.7	31.3	34.1	37.1	31.6	31.4	40	0.99	0.95
MT 9956	MCNEAL/KS27//MT9311	29.1	28.1	33.0	29.0	32.3	34.6	35.3	37.5	30.8	32.2	31	0.96	0.89

(continued)

Table3 (continued). 2000 height (inches) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
MT 9958	MCNEAL/KS27//MT9311	28.4	27.9	35.3	31.0	30.8	34.0	36.2	38.1	33.5	32.8	28	1.08	0.95
MT 9959	MCNEAL/KS27//MT9311	28.8	28.0	34.6	30.0	32.1	33.5	36.1	39.4	34.4	33.0	27	1.13	0.96
MT 9960	MCNEAL/KS27//MT9311	28.0	29.4	34.8	31.0	32.2	33.4	36.7	38.5	34.3	33.1	23	1.03	0.94
MTHW0001	MTHW9520/MTHW9427	29.7	28.3	32.9	29.0	31.5	32.6	37.1	39.0	32.8	32.5	29	1.10	0.96
MTHW0002	MTHW9520/MTHW9427	28.4	28.1	32.3	28.0	28.6	32.4	35.6	39.0	30.0	31.4	39	1.18	0.94
MTHW0003	MTHW9520/MTHW9427	29.2	31.4	35.0	33.0	32.1	32.3	39.4	41.9	34.7	34.3	16	1.18	0.86
MTHW0004	MTHW9520/MTHW9427	27.6	27.7	30.3	30.0	28.3	32.5	35.9	37.5	30.8	31.2	42	1.05	0.88
MTHW9420	MT8182/MT8289	28.6	26.8	31.3	29.0	27.4	28.8	34.9	35.9	31.4	30.4	54	0.93	0.85
MTHW9701	CYMMIT204//MT8182/Fortu	25.9	25.4	30.7	28.0	26.8	31.2	33.6	34.0	27.1	29.2	63	0.98	0.88
MTHW9710	MT8182/Fortun//Pondera/M	29.4	27.4	30.3	29.0	28.3	28.9	32.1	34.3	31.5	30.1	60	0.61	0.79
MTHW9716	Klasic/Pomdera//Pondera/M	28.2	26.8	32.0	29.0	29.9	32.4	33.5	36.5	30.6	31.0	45	0.92	0.96
MTHW9804	SRHW13/3/PI372129/Ponder a	27.2	26.7	32.0	27.0	30.1	31.8	32.2	35.3	28.7	30.1	59	0.88	0.89
MTHW9901	MT9311/MTHW9417	30.4	30.8	35.2	33.0	34.8	36.3	38.9	40.9	34.4	35.0	10	1.05	0.93
MTHW9904	MTHW9417/MT9311	31.9	30.8	34.9	32.0	34.8	35.6	37.3	40.0	33.6	34.5	13	0.88	0.92
MTHW9905	MTHW9417/MTHW9430	29.2	28.4	33.9	30.0	31.5	31.8	34.7	37.4	31.6	32.0	33	0.89	0.97
MTHW9906	MTHW9417/MTHW9430	28.6	27.6	32.2	29.0	30.4	31.6	33.9	36.2	30.4	31.1	44	0.85	0.98
MTHW9908	CAN1/MT8182 (HW952014)	28.0	26.6	31.8	28.0	27.4	32.3	34.0	36.7	31.0	30.6	49	1.05	0.95
MTHW9915	CAN1/MT8182 (HW952097)	27.4	27.4	32.1	29.0	30.0	32.5	35.4	37.2	30.3	31.3	41	1.05	0.97
MTRWA116	PI372129/2*PONDERA	29.3	27.9	33.9	28.0	29.2	32.4	34.9	37.2	29.6	31.4	38	1.01	0.92
ND 690	ARGENT	32.8	30.2	34.5	32.0	34.1	34.1	39.2	40.2	35.3	34.7	11	0.96	0.89
ND 694	PARSHALL	33.5	31.5	37.5	34.0	34.3	37.6	40.8	44.2	39.8	37.0	5	1.23	0.91
ND 695	REEDER	30.2	28.2	35.9	29.0	31.0	33.7	37.7	39.4	32.2	33.0	26	1.22	0.97
PI486139	KLASIC	21.6	21.2	24.1	21.0	21.6	20.3	25.0	27.1	21.3	22.6	64	0.61	0.72
PI527682	AMIDON	32.1	32.4	37.1	33.0	34.6	37.2	42.2	43.1	38.2	36.6	6	1.24	0.94
PI549275	HI-LINE	27.3	27.3	32.2	27.0	28.2	30.9	33.4	35.3	30.4	30.2	57	0.94	0.98
PI574642	McNEAL	30.7	28.9	36.5	29.0	31.2	34.1	35.3	39.1	32.4	33.0	25	1.05	0.90
PI592761	ERNEST	32.1	32.0	37.6	34.0	35.8	39.8	42.0	42.7	36.9	37.0	4	1.20	0.92
PI607557	SCHOLAR	31.7	31.9	35.2	32.0	33.7	36.3	38.6	41.9	35.5	35.2	8	1.06	0.96
SLW97606	SLW97606	28.7	28.3	32.2	30.0	30.1	31.0	34.8	37.3	32.7	31.7	35	0.90	0.94
WB 926	WESTBRED 926	28.3	26.8	31.8	28.0	29.5	29.6	32.3	35.5	30.2	30.2	56	0.81	0.94
	SITE MEAN	29.36	28.72	34.01	30.06	30.95	33.05	36.00	38.24	32.47	32.5		1.00	1.00
	C.V.	3.27	2.95	2.71	1 REP	5.40	4.35	1.98	1.96	4.65				
	LSD (.05)	1.63	1.42	1.53		2.86	2.37	1.20	1.27	2.44				

Table 4. 2000 test weight (lb/bu) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
BR 2306	GENERAL MILLS BR2306	56.7	61.7	58.8	58.6	57.8	59.6	59.6	60.1	62.4	59.5	57	1.14	0.89
BZ992322	HANK	57.3	61.0	59.2	58.0	58.7	58.9	59.5	61.6	62.3	59.6	55	1.11	0.94
BZ992588	CONAN	59.4	62.0	59.1	59.7	58.6	59.9	61.0	61.4	62.3	60.4	42	0.76	0.72
BZ994484	WB926/WB936	56.5	61.2	62.0	59.6	60.1	60.1	61.1	62.3	62.6	60.6	36	1.11	0.77
BZ996472	BZ992-634/GOLDEN86	60.6	64.0	63.5	61.2	61.9	62.9	63.0	63.3	63.5	62.6	5	0.73	0.84
CI 10003	THATCHER	55.9	61.4	59.9	56.3	57.1	57.0	58.0	59.3	60.9	58.4	64	1.27	0.85
CI 13596	FORTUNA	59.2	61.4	61.4	59.8	59.0	61.3	61.9	62.0	63.0	61.0	30	0.83	0.80
CI 17429	LEW	58.5	63.1	60.8	59.1	59.7	61.8	61.3	62.6	63.9	61.2	24	1.22	0.95
CI 17430	NEWANA	57.7	62.2	59.6	59.9	58.3	59.7	59.2	60.4	62.9	60.0	51	1.00	0.78
GMHR1	GENERAL MILLS GM50001	55.7	60.8	60.4	56.7	57.7	59.0	58.7	61.1	61.9	59.1	61	1.39	0.95
GMHR2	GENERAL MILLS GM50002	58.3	62.3	59.6	58.5	58.5	59.6	59.4	61.3	62.1	60.0	50	1.01	0.91
GMHW1	GENERAL MILLS GM40001	56.6	60.8	58.8	56.7	57.3	56.7	58.4	60.4	62.5	58.7	62	1.34	0.87
GMHW2	GENERAL MILLS GM40002	57.0	62.4	60.5	60.0	60.4	62.6	62.6	62.3	64.4	61.3	22	1.26	0.75
GMHW3	GENERAL MILLS GM40003	59.5	63.1	61.5	61.0	61.6	62.4	61.8	63.2	64.2	62.0	11	0.88	0.87
MT 9706	PONDERA/MT8849	58.8	62.4	61.8	60.1	58.1	60.1	59.9	61.9	62.6	60.6	35	0.96	0.78
MT 9712	PONDERA//MT8603/Pondera	61.1	63.6	62.1	60.7	59.6	59.9	62.0	62.2	64.0	61.7	15	0.82	0.64
MT 9719	LEW/MT8849	60.3	63.9	62.3	62.1	60.6	63.6	62.7	63.3	64.0	62.5	6	0.80	0.77
MT 9739	Amidon//Glenman/Amidon	58.8	62.2	62.0	59.9	59.7	60.3	61.4	60.9	62.0	60.8	31	0.72	0.78
MT 9748	MT8849/PONDERA	57.9	61.4	61.7	59.1	58.4	59.6	61.0	62.9	63.4	60.6	34	1.24	0.88
MT 9755	MTRWA141/PONDERA	57.2	61.3	60.7	59.1	58.8	60.7	61.0	62.2	62.7	60.4	41	1.13	0.92
MT 9806	MINNPRO/AMIDON	57.8	62.5	60.2	58.9	59.3	60.6	60.5	62.0	63.1	60.5	38	1.17	0.98
MT 9874	RGABC199/MT9312	56.9	61.0	59.1	57.1	57.8	60.4	59.3	61.0	61.7	59.4	59	1.15	0.89
MT 9905	MT9311/MT9328	60.3	63.5	60.6	58.1	61.4	60.1	60.6	62.9	64.5	61.3	21	1.09	0.66
MT 9912	MT9328/MT9401	61.1	63.1	63.1	62.0	60.4	62.1	61.8	61.3	61.5	61.8	13	0.23	0.15
MT 9913	MT9328/MT9401	60.3	63.5	63.6	61.5	60.6	61.8	61.9	61.7	61.5	61.8	12	0.43	0.32
MT 9918	MT9328/MT9419	57.6	61.4	60.3	58.3	60.1	60.4	60.3	61.3	61.2	60.1	48	0.82	0.82
MT 9923	MT9401/MT9311	60.9	63.8	63.6	60.9	61.0	62.1	61.1	63.1	64.1	62.3	7	0.82	0.78
MT 9925	MT9401/MT9328	58.7	62.0	60.2	58.1	59.6	60.1	60.5	61.5	62.7	60.4	40	0.98	0.92
MT 9929	MT9401/MT9328	58.5	62.6	61.9	60.1	60.1	58.4	60.6	61.4	62.3	60.6	33	0.85	0.65
MT 9931	MT9401/MT9328	60.9	63.5	63.0	60.6	60.9	61.4	62.3	62.8	63.1	62.1	10	0.68	0.83
MT 9937	MT9401/MT9328	59.7	62.6	61.3	60.5	60.0	61.5	61.6	62.1	61.8	61.2	23	0.60	0.83
MT 9954	MCNEAL/KS27//MCNEAL	57.6	62.1	61.1	58.8	57.4	58.8	60.3	62.0	62.3	60.0	49	1.24	0.88
MT 9955	MCNEAL/KS27//MCNEAL	56.5	61.6	61.4	59.1	57.2	59.8	60.5	61.8	62.6	60.1	47	1.33	0.88
MT 9956	MCNEAL/KS27//MT9311	60.8	64.0	61.8	61.3	62.5	61.0	62.3	62.9	63.6	62.2	8	0.64	0.69

(continued)

Table 4 (continued). 2000 test weight (lb/bu) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
MT 9958	MCNEAL/KS27//MT9311	61.1	64.1	62.0	61.9	61.7	62.4	62.9	63.0	64.2	62.6	4	0.67	0.88
MT 9959	MCNEAL/KS27//MT9311	60.9	64.0	63.1	61.6	61.9	62.1	63.8	63.7	64.4	62.8	2	0.80	0.90
MT 9960	MCNEAL/KS27//MT9311	60.8	64.0	62.1	61.0	61.7	63.2	63.1	63.2	64.5	62.6	3	0.82	0.86
MTHW0001	MTHW9520/MTHW9427	59.4	63.0	62.4	60.5	59.8	61.5	61.5	63.1	63.0	61.6	17	0.91	0.91
MTHW0002	MTHW9520/MTHW9427	55.3	61.5	60.9	56.1	58.7	57.9	57.9	61.2	62.3	59.1	60	1.57	0.85
MTHW0003	MTHW9520/MTHW9427	56.7	61.8	59.6	57.0	57.7	58.2	58.0	62.4	62.9	59.4	58	1.55	0.90
MTHW0004	MTHW9520/MTHW9427	55.3	59.5	58.3	55.0	57.9	58.2	59.4	60.8	61.0	58.4	63	1.31	0.83
MTHW9420	MT8182/MT8289	57.1	62.0	58.8	58.3	59.5	61.1	58.6	59.9	63.2	59.8	53	1.08	0.67
MTHW9701	CYMMIT204//MT8182/Fortu	57.8	60.5	58.9	57.1	58.6	58.8	59.6	61.7	62.4	59.5	56	1.10	0.85
MTHW9710	MT8182/Fortun//Pondera/M	57.5	61.7	59.3	58.8	58.8	60.1	61.1	61.8	62.1	60.1	46	1.04	0.90
MTHW9716	Klasic/Pomdera//Pondera/M	58.4	61.7	61.7	60.2	61.3	61.6	61.8	62.5	63.1	61.4	19	0.83	0.78
MTHW9804	SRHW13/3/PI372129/Ponder a	59.1	63.1	61.2	61.0	60.6	61.2	62.1	63.3	63.3	61.7	14	0.91	0.90
MTHW9901	MT9311/MTHW9417	59.0	62.2	60.4	59.3	61.5	61.0	60.9	61.5	63.6	61.0	29	0.83	0.73
MTHW9904	MTHW9417/MT9311	60.0	63.5	60.7	60.4	61.9	62.4	62.1	63.1	64.7	62.1	9	0.91	0.77
MTHW9905	MTHW9417/MTHW9430	57.5	62.3	60.4	59.0	59.8	59.5	60.6	62.5	63.4	60.6	32	1.24	0.94
MTHW9906	MTHW9417/MTHW9430	57.9	62.8	61.8	59.5	60.2	60.1	61.0	63.2	63.7	61.1	27	1.26	0.95
MTHW9908	CAN1/MT8182 (HW952014)	56.9	62.2	61.7	58.0	59.3	59.0	60.5	61.7	61.8	60.1	45	1.20	0.86
MTHW9915	CAN1/MT8182 (HW952097)	57.0	62.2	60.9	57.9	60.2	59.2	59.5	62.2	62.8	60.2	44	1.27	0.87
MTRWA116	PI372129/2*PONDERA	57.8	62.0	60.1	59.0	58.4	59.9	60.7	62.4	62.9	60.4	39	1.20	0.96
ND 690	ARGENT	58.9	62.3	61.2	59.5	59.6	61.0	61.6	62.3	63.0	61.0	28	0.96	0.97
ND 694	PARSHALL	59.8	63.1	63.2	60.7	59.9	61.4	61.2	62.4	63.0	61.6	16	0.81	0.80
ND 695	REEDER	60.1	62.0	60.6	60.5	59.4	61.2	61.7	61.9	62.7	61.1	26	0.63	0.77
PI486139	KLASIC	57.4	61.8	59.9	58.9	59.7	62.8	62.2	63.4	63.8	61.1	25	1.28	0.74
PI527682	AMIDON	59.1	61.7	60.7	58.7	58.7	61.3	60.4	61.3	62.2	60.5	37	0.82	0.82
PI549275	HI-LINE	56.0	62.4	60.2	58.7	57.8	61.1	59.8	62.6	62.9	60.2	43	1.53	0.91
PI574642	McNEAL	57.4	61.4	61.1	58.1	57.1	59.2	60.0	61.8	62.3	59.8	52	1.26	0.89
PI592761	ERNEST	59.7	63.1	62.3	59.8	59.7	60.5	61.7	62.2	63.4	61.4	18	0.96	0.90
PI607557	SCHOLAR	60.7	63.0	60.9	60.0	60.2	61.4	60.7	61.8	62.7	61.3	20	0.62	0.76
SLW97606	SLW97606	61.7	64.8	63.3	61.9	62.0	63.5	62.4	63.7	64.1	63.0	1	0.66	0.82
WB 926	WESTBRED 926	56.5	61.2	59.1	58.3	58.6	59.2	59.7	61.3	62.8	59.6	54	1.23	0.94
	SITE MEAN	58.49	62.34	61.00	59.35	59.57	60.53	60.84	62.04	62.90	60.8		1.00	1.00
	C.V.	0.80	0.71	0.94	1 REP	0.57	1.79	1 REP	1 REP	1 REP				
	LSD (.05)	0.80	0.74	0.96		0.55	1.81							

Table 5. 2000 grain protein (percent) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
BR 2306	GENERAL MILLS BR2306	0.00	12.60	13.60	14.00	16.40	13.80	14.60	13.70	14.00	14.1	52	0.00	0.00
BZ992322	HANK	16.10	13.70	14.60	14.40	17.50	15.70	16.10	15.20	14.70	15.3	24	0.98	0.90
BZ992588	CONAN	16.10	14.20	14.70	14.60	16.40	15.40	16.30	15.45	15.30	15.4	19	0.63	0.80
BZ994484	WB926/WB936	17.50	15.30	15.20	15.00	17.20	15.10	17.00	15.55	16.00	16.0	4	0.73	0.67
BZ996472	BZ992-634/GOLDEN86	14.80	12.40	12.10	13.20	16.10	14.70	14.10	14.00	14.20	14.0	53	0.98	0.77
CI 10003	THATCHER	17.60	13.10	13.90	15.40	17.80	16.80	16.70	15.70	14.90	15.8	9	1.30	0.80
CI 13596	FORTUNA	15.60	13.10	14.30	15.00	17.90	15.30	15.90	15.25	15.30	15.3	25	1.09	0.89
CI 17429	LEW	16.20	13.30	14.80	14.70	17.80	13.70	15.00	14.40	14.40	14.9	37	1.12	0.84
CI 17430	NEWANA	15.70	12.70	13.80	14.30	17.70	14.90	15.00	13.45	14.10	14.6	43	1.28	0.95
GMHR1	GENERAL MILLS GM50001	16.00	12.90	14.00	14.00	15.80	14.50	14.90	14.00	15.40	14.6	44	0.81	0.80
GMHR2	GENERAL MILLS GM50002	0.00	11.90	12.50	13.60	15.90	13.80	14.10	12.30	12.90	13.4	63	0.00	0.00
GMHW1	GENERAL MILLS GM40001	14.80	11.70	12.80	13.10	16.10	15.10	13.50	12.10	12.70	13.5	61	1.15	0.75
GMHW2	GENERAL MILLS GM40002	15.40	11.80	13.10	14.30	16.40	12.40	15.40	14.70	14.50	14.2	51	1.15	0.71
GMHW3	GENERAL MILLS GM40003	13.80	12.00	12.60	12.80	15.20	13.00	13.90	12.75	13.20	13.2	64	0.83	0.96
MT 9706	PONDERA/MT8849	16.00	14.40	14.60	15.10	18.10	14.80	16.90	15.45	16.00	15.7	12	0.96	0.79
MT 9712	PONDERA//MT8603/Pondera	16.40	14.40	15.40	15.00	17.40	15.60	16.60	16.00	15.40	15.8	10	0.75	0.85
MT 9719	LEW/MT8849	16.40	14.10	14.10	14.60	17.40	14.60	15.80	15.45	15.60	15.3	26	0.92	0.85
MT 9739	Amidon//Glenman/Amidon	16.70	14.50	15.50	15.30	17.10	15.70	16.10	16.15	16.20	15.9	6	0.64	0.84
MT 9748	MT8849/PONDERA	15.20	13.30	13.40	14.70	18.00	15.80	15.70	14.75	15.30	15.1	34	1.12	0.79
MT 9755	MTRWA141/PONDERA	17.10	12.60	14.30	14.70	17.20	13.90	15.40	14.50	15.30	15.0	35	1.24	0.88
MT 9806	MINNPRO/AMIDON	17.50	15.30	15.20	15.10	17.80	15.10	16.20	15.55	15.10	15.9	7	0.84	0.76
MT 9874	RGABC199/MT9312	16.50	14.30	15.10	14.50	16.50	14.20	14.50	14.05	14.60	14.9	38	0.67	0.62
MT 9905	MT9311/MT9328	16.70	13.00	14.70	15.40	17.60	16.30	15.40	13.20	14.40	15.2	29	1.21	0.76
MT 9912	MT9328/MT9401	16.10	14.40	15.00	15.30	17.90	14.80	16.90	16.30	17.00	16.0	5	0.82	0.60
MT 9913	MT9328/MT9401	16.90	14.90	15.60	15.50	17.70	16.40	16.80	16.10	16.80	16.3	2	0.72	0.85
MT 9918	MT9328/MT9419	16.70	13.60	14.20	14.90	16.80	15.00	15.80	15.10	15.50	15.3	27	0.91	0.91
MT 9923	MT9401/MT9311	16.10	15.00	15.00	14.90	18.00	15.60	16.50	14.65	15.20	15.7	13	0.85	0.79
MT 9925	MT9401/MT9328	15.40	14.40	14.60	15.40	17.20	15.20	15.70	14.55	15.00	15.3	28	0.69	0.82
MT 9929	MT9401/MT9328	16.60	14.50	14.60	14.60	17.40	17.10	16.90	15.70	15.90	15.9	8	0.83	0.65
MT 9931	MT9401/MT9328	15.70	14.60	14.40	15.10	17.80	16.00	16.40	16.10	15.10	15.7	14	0.78	0.68
MT 9937	MT9401/MT9328	16.50	14.60	15.10	14.80	17.50	15.30	15.90	14.65	16.00	15.6	15	0.82	0.87
MT 9954	MCNEAL/KS27//MCNEAL	16.60	13.00	14.00	14.40	17.50	15.50	15.00	13.70	14.40	14.9	39	1.24	0.92
MT 9955	MCNEAL/KS27//MCNEAL	15.90	12.70	14.50	14.60	17.70	13.80	15.30	14.50	14.90	14.9	40	1.19	0.90
MT 9956	MCNEAL/KS27//MT9311	15.60	12.80	14.70	14.50	16.30	15.90	16.10	15.20	15.60	15.2	30	0.78	0.64

(continued)

Table 5 (continued). 2000 grain protein (percent) summary for the advanced spring wheat nursery grown across Montana.

ID	Pedigree	Harve Dry	Sidney Dry	Sidney Irr	Conrad Dry	Huntley Dry	Huntley Irr	Bozeman Dry	Bozeman Irr	Kalispell Hi-rain	Ave	Rank	BYX	RSQ
MT 9958	MCNEAL/KS27//MT9311	15.40	13.20	14.60	15.40	17.40	14.50	16.40	15.55	16.00	15.4	20	0.91	0.70
MT 9959	MCNEAL/KS27//MT9311	15.80	12.90	15.00	14.20	17.40	15.20	15.60	14.70	15.90	15.2	31	1.03	0.84
MT 9960	MCNEAL/KS27//MT9311	15.80	13.00	14.90	15.00	16.70	14.30	15.40	15.00	15.10	15.0	36	0.83	0.83
MTHW0001	MTHW9520/MTHW9427	15.20	12.60	12.50	14.10	16.80	13.70	14.40	12.35	13.50	13.9	54	1.21	0.87
MTHW0002	MTHW9520/MTHW9427	17.00	11.20	13.20	13.90	15.40	14.90	13.70	11.80	12.60	13.7	59	1.30	0.63
MTHW0003	MTHW9520/MTHW9427	15.40	11.50	12.50	13.10	16.10	14.20	14.20	11.95	12.30	13.5	62	1.34	0.87
MTHW0004	MTHW9520/MTHW9427	15.90	11.40	12.70	14.00	17.00	13.90	13.20	12.50	12.60	13.7	60	1.48	0.86
MTHW9420	MT8182/MT8289	15.10	11.60	13.40	13.60	17.10	13.40	14.10	12.90	13.20	13.8	58	1.35	0.94
MTHW9701	CYMMIT204//MT8182/Fortu	14.60	12.20	13.10	13.70	16.30	14.50	14.00	13.20	13.10	13.9	55	1.00	0.87
MTHW9710	MT8182/Fortun//Pondera/M	16.80	13.10	15.20	14.20	16.90	14.60	14.50	14.25	14.90	14.9	41	0.98	0.78
MTHW9716	Klasic/Pomdera//Pondera/M	16.20	12.60	13.80	14.20	16.90	14.40	15.10	13.25	14.50	14.5	47	1.20	0.96
MTHW9804	SRHW13/3/PI372129/Ponder a	15.00	12.60	14.00	13.70	15.90	12.60	14.60	13.05	14.00	13.9	56	0.87	0.76
MTHW9901	MT9311/MTHW9417	16.10	12.70	13.80	14.50	17.30	15.60	14.10	13.65	13.70	14.6	45	1.17	0.81
MTHW9904	MTHW9417/MT9311	15.50	13.40	14.00	14.60	17.00	14.30	14.80	13.70	14.20	14.6	46	0.94	0.92
MTHW9905	MTHW9417/MTHW9430	16.80	12.50	13.80	14.20	16.70	14.70	14.50	13.45	13.60	14.5	48	1.21	0.87
MTHW9906	MTHW9417/MTHW9430	16.90	12.60	13.70	15.30	17.00	14.30	15.50	14.10	15.10	14.9	42	1.22	0.88
MTHW9908	CAN1/MT8182 (HW952014)	16.30	11.80	12.50	14.00	17.50	16.20	13.90	13.05	13.70	14.3	49	1.53	0.78
MTHW9915	CAN1/MT8182 (HW952097)	16.70	12.10	13.00	13.70	16.90	15.60	14.00	13.35	13.30	14.3	50	1.37	0.80
MTRWA116	PI372129/2*PONDERA	16.40	13.70	15.30	15.60	17.90	15.50	15.80	14.85	15.30	15.6	16	0.99	0.93
ND 690	ARGENT	16.40	13.40	15.00	14.60	17.30	15.10	15.80	15.80	15.50	15.4	21	0.93	0.86
ND 694	PARSHALL	16.20	15.10	15.60	14.80	17.80	14.50	17.10	14.75	16.50	15.8	11	0.78	0.56
ND 695	REEDER	15.50	14.10	15.40	14.10	17.10	15.40	16.30	15.25	15.80	15.4	22	0.70	0.66
PI486139	KLASIC	14.90	12.40	13.10	14.20	15.60	12.40	14.70	13.65	13.80	13.9	57	0.86	0.74
PI527682	AMIDON	15.40	14.00	15.10	14.80	17.20	13.90	15.90	15.25	15.10	15.2	32	0.73	0.67
PI549275	HI-LINE	17.90	13.60	14.90	15.30	17.70	13.80	15.70	14.50	15.50	15.4	23	1.21	0.78
PI574642	McNEAL	15.70	13.40	14.10	14.50	18.00	14.80	15.70	14.90	15.40	15.2	33	1.12	0.91
PI592761	ERNEST	16.80	14.50	15.40	16.00	18.00	16.80	16.40	16.65	15.90	16.3	3	0.80	0.80
PI607557	SCHOLAR	15.60	14.90	14.90	14.80	17.60	15.50	16.50	15.40	15.60	15.6	17	0.69	0.73
SLW97606	SLW97606	18.40	14.90	16.50	16.20	18.50	15.70	17.90	16.45	16.50	16.8	1	1.01	0.83
WB 926	WESTBRED 926	16.40	14.40	14.60	15.60	17.60	15.10	16.10	15.00	15.20	15.6	18	0.87	0.92
	SITE MEAN	16.10	13.32	14.24	14.57	17.12	14.85	15.44	14.44	14.82	15.0		1.00	1.00