

PROJECT TITLE: Statewide Spring Wheat Variety Performance - 2003

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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 2003 Advanced Spring Wheat yield trial was grown at three irrigated and seven rain fed sites across Montana. Irrigated sites were at Sidney, Huntley, and Bozeman. Kalispell is usually considered a high-rainfall site. Replicated multiple-row plots were established at all locations using standard research techniques. Summaries of yield, test weight, protein content, heading date, and plant height at maturity are shown in Tables 1,2, 3, 4, and 5, respectively.

Highest yielding lines on a statewide basis were MT0245 and BZ998-447 (Table 1). Highest yielding varieties at individual sites were Outlook at **Havre**, MT 0202 at **Conrad**, Hank at **Moccasin**, MT0266 at **Huntley dryland**, MTHW0204 at **Huntley irrigated**, MT0245 at **Sidney dryland**, Norpro at **Sidney irrigated**, MT0266 at **Bozeman dryland**, MT0261 at **Bozeman irrigated**, and MT0245 at **Kalispell**.

Lines with the highest test weights statewide were MT0148 and BZ996-475 (Table 2). Lines with the highest protein contents statewide were Thatcher and MT0118 (Table 3). Earliest heading lines were Blanca Grande and MTHW0202, while latest heading lines were Thatcher and SX1501B (Table 4). Shortest lines were SX1501B and Plata, while tallest lines were Thatcher and Fortuna (Table 5).

SUMMARY: Highest yielding lines on a statewide basis were MT0245 and BZ998-447. Highest yielding varieties at individual sites were Outlook at Havre, MT 0202 at Conrad, Hank at Moccasin, MT0266 at Huntley dryland, MTHW0204 at Huntley irrigated, MT0245 at Sidney dryland, Norpro at Sidney irrigated, MT0266 at Bozeman dryland, MT0261 at Bozeman irrigated, and MT0245 at Kalispell.

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. 2002 yield (bu/ac) summary for the advanced spring wheat nursery grown across Montana.

PEDIGREE		Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
AgriPro1	NORPRO	9.43	50.17	12.61	36.53	83.50	65.77	<u>115.77</u>	39.26	77.76*	82.32*	57.3	25	1.13	0.99
AgriPro2	KNUDSON	6.99	46.60	14.22	36.80	54.56	63.83	106.22	38.56	69.22	82.96*	52.0	61	0.95	0.88
BZ992322	HANK	10.44	48.94	<u>21.36</u>	42.30*	85.59	63.34	113.51*	41.85	74.47	72.55	57.4	22	1.02	0.98
BZ992588	Conan	13.53	45.86	17.76	35.60	77.53	55.70	88.26	37.81	68.86	79.66	52.1	60	0.87	0.98
BZ996434	BORDER/CONAN	9.20	48.69	16.25	37.83	77.24	60.14	94.60	40.22	71.24	76.19	53.2	52	0.93	1.00
BZ996472	BZ992-634/GOLDEN86	10.67	60.83*	18.42*	41.13	72.81	60.39	103.32	43.00	72.81	78.16	56.2	37	0.93	0.96
BZ998447	SPILLMAN/906R	11.54	58.29*	21.20*	42.0*	88.40	64.94	114.75*	45.51	75.57	90.17*	61.2*	2	1.08	0.99
CI 10003	THATCHER	8.22	33.18	10.64	31.40	76.07	49.38	78.16	31.10	53.44	69.79	44.1	64	0.84	0.97
CI 13596	FORTUNA	10.83	49.56	18.11*	37.73	79.41	57.41	77.47	41.66	63.45	74.37	51.0	63	0.79	0.96
CI 17430	NEWANA	12.31	44.76	14.77	36.57	93.29*	55.91	92.96	36.97	66.64	83.68*	53.8	49	0.99	0.97
GM40004	BR 7030	10.70	47.13	17.91	37.50	77.07	67.15	114.7*	39.88	77.32*	86.96*	57.6	17	1.08	0.97
GM40019	PLATA	12.43	50.29	18.13*	36.57	79.47	66.11	107.61*	42.80	76.35*	85.16*	57.5	19	1.02	0.98
GM40020	BLANCA GRANDE	9.01	51.88	19.76*	41.40	79.88	63.70	113.2*	43.74	75.10	86.58*	58.4*	12	1.05	0.98
MCNB	MCNEAL LARGE SEED	14.28*	49.22	19.44*	37.63	98.04*	60.24	102.91	41.79	67.99	76.68	56.8	27	1.00	0.98
MT 0009	MCNEAL/MT9410	13.29*	51.21	19.94*	38.90	85.70	59.34	105.19	42.08	75.40	74.97	56.6	31	0.98	1.00
MT 0013	MCNEAL/MT9410	11.70	58.85*	20.22*	40.90	87.02	61.29	107.53*	39.97	72.33	80.04	58.0	15	1.01	0.99
MT 0103	BZ992632/MCNEAL	11.55	55.35	16.86	40.07	89.20	63.64	101.89	40.31	73.07	73.08	56.5	33	0.99	1.00
MT 0112	ERNEST/MT9410	11.15	45.08	14.37	35.13	80.70	54.69	97.74	38.69	70.89	76.29	52.5	58	0.96	0.99
MT 0118	ERNEST/MT9410	12.80	43.47	15.60	33.57	86.54	56.92	104.63	38.60	75.07	74.09	54.1	48	1.02	0.99
MT 0134	MT9410/ERNEST	11.24	45.27	14.52	35.23	89.72	53.96	97.31	34.03	68.17	77.24	52.7	57	1.00	0.99
MT 0147	MT9565/ERNEST	15.30*	47.03	13.05	36.23	79.60	56.29	95.83	38.91	73.37	74.12	53.0	53	0.93	0.99
MT 0148	MT9565/ERNEST	13.29*	44.34	16.19	40.47	86.20	61.77	95.33	36.56	68.00	66.75	52.9	55	0.91	0.98
MT 0202	MCNEAL/GRANDIN	10.39	<u>65.99</u>	14.79	37.90	72.87	65.83	98.65	43.62	74.04	74.30	55.8	40	0.92	0.94
MT 0205	MCNEAL/MT8808	11.56	46.81	16.70	36.63	99.71*	63.93	106.88	43.45	76.04	85.65*	58.7*	10	1.11	0.99
MT 0212	MCNEAL/MT8808	9.69	50.87	16.24	37.23	79.05	56.52	102.10	39.82	67.54	82.46*	54.2	45	0.98	0.99
MT 0220	MCNEAL/ND695	12.87	44.86	18.53*	41.47	89.23	65.74	97.23	41.58	77.08*	74.41	56.3	35	0.96	0.98
MT 0225	ND695/MCNEAL	11.71	48.93	14.22	39.03	89.86	65.14	108.43*	41.63	72.91	83.09*	57.5	20	1.07	1.00
MT 0228	MCNEAL/WA7802	12.24	54.78	16.68	34.40	96.00	59.92	103.65	41.55	65.05	78.83	56.3	36	1.03	0.98
MT 0234	ERNEST/ND695	10.09	53.40	20.04*	43.10*	85.37	60.27	101.81	43.92	79.03*	79.28	57.6	18	0.98	0.99
MT 0237	GRANDIN/WA7802	7.32	54.78	18.75*	42.17*	75.17	63.46	99.08	45.78	76.63*	85.33*	56.8	28	0.96	0.97
MT 0238	MT8808/MT9653	12.08	53.04	18.03*	38.60	86.18	57.31	91.35	39.39	64.69	77.27	53.8	50	0.90	0.98
MT 0244	MT8808/WA7802	13.23*	52.35	14.26	35.63	78.23	56.13	95.39	40.16	71.82	81.00	53.8	51	0.94	0.99
MT 0245	MT9433/ND695	14.27*	55.18	16.99	42.30*	98.58*	<u>73.03</u>	105.86	48.26*	80.01*	<u>91.56</u>	<u>62.6</u>	1	1.08	0.99
MT 0247	MT9433/ND695	10.89	53.84	19.04*	38.80	81.16	63.97	105.14	44.35	78.98*	85.93*	58.2	13	1.01	0.98
MT 0248	ND695/MT9433	13.00	60.75*	17.99*	39.63	82.97	64.75	111.14*	42.29	72.23	88.97*	59.4*	7	1.04	0.98
MT 0249	ND695/MT9433	11.70	59.70	18.18*	42.80*	84.54	65.93	109.24*	41.18	80.18*	84.39*	59.8*	4	1.04	0.99
MT 0252	ND695/MT9433	11.41	62.28*	17.82*	38.30	73.84	68.14	101.67	43.85	77.37*	74.03	56.9	26	0.93	0.95
MT 0253	MT9542/ND695	12.97	47.30	14.26	39.13	91.26*	62.59	106.28	41.97	74.26	77.82	56.8	29	1.04	0.99
MT 0255	MT9755/WA7802	12.11	48.84	18.71*	39.20	100.38*	63.19	109.49*	43.85	76.16	85.67*	59.8*	5	1.10	0.99
MT 0260	MT9653/REEDER	13.83*	48.41	18.72*	38.33	103.11*	66.22	105.93	42.07	78.29*	78.69	59.4*	8	1.07	0.97

(continued)

Table 1 (continued). 2002 yield (bu/ac) summary for the advanced spring wheat nursery grown across Montana.

	PEDIGREE	Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
MT 0261	ND695/MT9653	9.07	57.79*	16.07	35.50	93.06*	66.45	100.72	46.33*	<u>82.07</u>	90.73*	59.8*	6	1.08	0.98
MT 0265	ND695/MT9755	13.35*	52.73	16.11	36.13	80.20	65.53	102.21	44.12	72.14	84.28*	56.7	30	0.98	0.99
MT 0266	ND695/MT9755	9.04	57.49*	17.94	<u>45.93</u>	86.50	70.44*	110.25	<u>49.76</u>	77.50*	86.86*	61.2*	3	1.05	0.98
MT 9918	MT9328/MT9419	9.60	49.24	16.39	36.93	92.73*	59.75	105.77	38.86	71.50	78.44	55.9	39	1.06	1.00
MT 9929	CHOTEAU	13.14	59.51*	15.02	37.17	86.56	61.21	107.30	37.66	70.36	77.91	56.6	32	1.02	0.98
MT 9955	McNeal/KS27//MCNEAL	14.13	55.40	16.86	38.63	95.03*	59.52	113.32*	39.30	72.34	77.15	58.2	14	1.07	0.98
MTHW0002	MTHW9520/MTHW9427	10.34	44.00	18.10*	36.07	99.56*	60.80	114.45*	37.71	72.51	80.60	57.4	23	1.14	0.98
MTHW0201	ID377S/MTHW9701	10.26	45.33	18.06*	34.97	80.76	63.80	99.28	42.92	80.84*	77.93	55.4	41	0.98	0.98
MTHW0202	ID377S/MTHW9701	9.05	52.52	18.92*	40.87	92.34*	62.53	107.90	45.35	74.17	89.64*	59.3*	9	1.08	1.00
MTHW0203	ID377S/MTHW9701	12.75	44.46	15.62	38.77	104.01*	64.76	102.24	35.35	75.58	86.14*	58.0	16	1.11	0.97
MTHW0204	MTHW9427/MT9410	11.64	48.31	16.32	38.27	<u>106.11</u>	59.69	110.67*	35.65	70.12	78.03	57.5	21	1.13	0.97
MTHW9901	MT9311/MTHW9417	10.80	44.12	18.02*	37.20	95.15*	57.98	101.82	42.81	66.23	78.63	55.3	42	1.01	0.98
ND 695	Reeder	12.35	53.93	18.36*	40.63	85.48	67.57	102.45	44.49	74.72	87.40*	58.7*	11	1.00	0.99
PI527682	AMIDON	10.88	39.93	17.45	34.63	89.20	57.86	97.36	37.91	66.75	78.26	53.0	54	0.99	0.99
PI549275	HI-LINE	11.23	52.97	15.29	39.03	93.90	61.92	106.34	36.64	70.02	77.54	56.5	34	1.05	0.99
PI574642	MCNEAL	13.88*	49.53	20.26*	36.00	88.09	60.72	107.54*	39.77	65.25	78.46	56.0	38	1.00	0.99
PI592761	ERNEST	11.80	42.63	15.92	33.07	86.02	54.74	92.84	41.94	74.10	75.94	52.9	56	0.95	0.98
PI607557	SCHOLAR	12.19	46.42	17.81	36.60	87.33	59.43	94.38	41.85	69.21	82.59*	54.8	44	0.95	0.98
PI612605	MTHW9420	8.09	46.01	18.55*	37.13	87.94	63.88	102.70	39.40	67.16	70.95	54.2	46	0.99	0.98
PI619086	EXPLORER	13.16*	46.55	19.09*	39.00	74.22	62.58	91.86	43.30	63.37	70.01	52.3	59	0.82	0.98
PI632252	OUTLOOK	<u>16.17</u>	48.78	16.56	42.47*	88.91	69.03*	104.11	42.74	74.30	70.54	57.4	24	0.97	0.98
SX1501B	SEEDS SX1501B	13.11	36.25	15.37	37.57	98.39*	55.14	101.89	35.27	62.21	56.52	51.2	62	0.97	0.90
SX1502B	SEEDS SX1502B	12.17	46.09	14.83	36.60	91.71*	56.08	102.44	38.51	71.72	71.69	54.2	47	1.01	0.99
WB 926	WESTBRED 926	10.53	54.07	15.96	39.03	78.35	59.63	101.91	43.02	71.58	75.17	54.9	43	0.95	0.99
*****	SITE MEAN *****	11.56	50.19	17.03	38.19	86.51	61.64	102.66	40.98	72.26	79.25	56.0		1.00	1.00
	C.V. (S/MEAN %)	15.44	12.01	11.72	7.15	10.31	3.95	4.93	5.29	4.67	7.84	8.54			
	LSD (.05)	3.02	10.28	3.40	4.41	15.01	4.10	8.36	3.66	5.76	10.53	4.20			

Means followed by an asterisk are not significantly different at the .05 level when compared to the highest yielding wheat which is underlined

Table 2. 2002 test weight (lb/bu) summary for the advanced spring wheat nursery grown across Montana.

PEDIGREE		Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
AgriPro1	NORPRO	57.10	54.50	47.64	62.27	62.23*	62.22	62.91	55.50	59.20	58.90	58.2	25	1.25	0.97
AgriPro2	KNUDSON	57.11	58.30	52.01	61.73	61.07	61.34	63.34	56.30	58.80	60.00	59.0	12	0.85	0.96
BZ992322	HANK	56.17	52.40	49.12	60.27	60.57	58.24	61.28	51.70	57.20	55.00	56.2	57	1.04	0.91
BZ992588	Conan	56.66	54.70	51.62	61.80	58.57	61.21	62.64	55.00	58.30	58.70	57.9	31	0.87	0.88
BZ996434	BORDER/CONAN	57.87	55.90	51.77	62.5*	62.13*	60.72	61.99	54.80	60.20	60.50	58.8	16	0.92	0.92
BZ996472	BZ992-634/GOLDEN86	60.18*	61.20	52.81	63.3*	60.57	63.93*	63.79*	58.50	62.00	61.70	60.8*	2	0.79	0.82
BZ998447	SPILLMAN/906R	55.95	53.80	47.24	61.13	60.40	59.47	60.59	53.20	56.90	54.40	56.3	53	1.12	0.94
CI 10003	THATCHER	50.51	52.60	46.93	56.23	59.77	58.51	61.42	51.20	54.30	56.20	54.8	62	1.14	0.90
CI 13596	FORTUNA	57.11	57.90	50.06	60.73	61.9*	61.34	62.05	57.50	60.90	60.00	58.9	14	0.92	0.92
CI 17430	NEWANA	56.09	54.00	50.33	59.97	62.33*	59.49	61.65	55.40	58.40	57.90	57.6	37	0.95	0.95
GM40004	BR 7030	53.25	57.60	50.14	62.87*	60.17	61.32	62.65	54.50	59.80	59.00	58.1	28	1.05	0.88
GM40019	PLATA	56.35	55.70	46.30	58.80	62.13*	59.97	62.54	54.30	58.10	59.40	57.4	39	1.20	0.93
GM40020	BLANCA GRANDE	58.84*	61.10	49.53	62.53*	62.73*	62.91	63.99*	57.10	61.80	60.90	60.1	5	1.07	0.90
MCNB	MCNEAL LARGE SEED	53.39	55.90	48.90	58.97	60.57	59.99	62.55	53.70	56.40	56.60	56.7	48	1.04	0.95
MT 0009	MCNEAL/MT9410	57.71	57.90	52.90	60.77	63.1*	62.18	63.44	58.20	60.80	60.40	59.7	6	0.82	0.95
MT 0013	MCNEAL/MT9410	56.08	56.70	48.22	59.57	60.87	60.15	61.56	53.10	58.00	56.00	57.0	44	1.05	0.96
MT 0103	BZ992632/MCNEAL	55.33	54.00	50.03	60.47	61.37*	59.73	62.81	54.50	56.70	58.10	57.3	41	1.01	0.94
MT 0112	ERNEST/MT9410	57.50	58.90	50.24	60.17	61.6*	62.21	62.96	55.40	59.80	58.30	58.7	18	0.96	0.94
MT 0118	ERNEST/MT9410	56.30	56.80	49.72	59.07	60.10	61.65	62.09	53.60	57.90	56.70	57.4	40	0.96	0.94
MT 0134	MT9410/ERNEST	56.48	56.90	50.24	60.60	62.0*	61.09	62.72	55.40	57.40	59.50	58.2	26	0.98	0.96
MT 0147	MT9565/ERNEST	<u>60.62</u>	59.10	52.81	62.27	63.3*	62.73	64.26*	59.00	61.80	61.00	60.7	3	0.84	0.95
MT 0148	MT9565/ERNEST	56.94	57.90	51.95	61.57	63.17*	61.85	63.44	56.50	61.50	59.30	59.4	9	0.95	0.98
MT 0202	MCNEAL/GRANDIN	60.38*	62.50	53.33	<u>64.17</u>	63.57	<u>64.14</u>	<u>64.96</u>	58.50	63.80	62.30	<u>61.8</u>	1	0.89	0.90
MT 0205	MCNEAL/MT8808	53.72	55.10	47.40	58.57	61.63*	58.41	60.69	53.30	56.90	57.00	56.3	54	1.08	0.97
MT 0212	MCNEAL/MT8808	57.34	56.60	48.95	61.67	62.33*	62.37	62.56	56.50	61.30	57.10	58.7	19	1.11	0.95
MT 0220	MCNEAL/ND695	53.95	55.90	48.21	60.57	62.07*	59.82	62.24	51.70	57.50	56.20	56.8	46	1.19	0.96
MT 0225	ND695/MCNEAL	53.12	54.80	47.29	60.60	60.97	60.00	61.30	51.30	57.10	56.30	56.3	55	1.22	0.97
MT 0228	MCNEAL/WA7802	53.62	54.20	49.17	58.80	61.00	58.93	61.96	54.30	57.60	55.80	56.5	51	1.00	0.95
MT 0234	ERNEST/ND695	57.24	59.30	51.03	63.07*	63.2*	62.20	63.71*	55.30	61.40	58.50	59.5	7	1.06	0.96
MT 0237	GRANDIN/WA7802	56.59	55.00	50.70	63.8*	60.40	60.54	62.97	54.80	60.70	59.40	58.5	20	1.03	0.90
MT 0238	MT8808/MT9653	58.64	57.70	51.25	62.33	60.57	61.23	62.57	56.10	60.30	58.60	58.9	15	0.87	0.94
MT 0244	MT8808/WA7802	55.24	54.70	47.56	59.70	60.47	55.56	59.49	53.20	57.20	56.80	56.0	59	0.95	0.89
MT 0245	MT9433/ND695	55.96	54.40	48.92	61.97	61.6*	61.14	62.23	55.20	58.20	58.60	57.8	35	1.11	0.97
MT 0247	MT9433/ND695	59.31*	58.00	53.50	63.4*	62.03*	62.99	63.54	58.00	61.80	61.00	60.4	4	0.82	0.95
MT 0248	ND695/MT9433	56.80	57.00	49.20	62.7*	61.63*	60.58	62.78	54.80	59.00	59.40	58.4	23	1.09	0.97
MT 0249	ND695/MT9433	57.56	56.50	49.93	60.93	61.57*	61.09	62.21	56.10	59.10	58.40	58.3	24	0.96	0.99
MT 0252	ND695/MT9433	59.03*	57.20	<u>55.47</u>	62.67*	57.73	61.94	63.40	57.30	59.80	58.80	59.3	10	0.56	0.65
MT 0253	MT9542/ND695	55.80	55.70	49.35	61.20	61.00	59.68	62.47	55.20	58.90	56.50	57.6	38	1.02	0.98
MT 0255	MT9755/WA7802	55.83	55.90	49.42	59.67	61.33*	60.24	61.40	55.30	58.10	56.10	57.3	42	0.95	0.97
MT 0260	MT9653/REEDER	55.90	55.20	51.26	60.57	61.4*	59.84	62.76	55.50	58.70	59.00	58.0	30	0.91	0.97

(continued)

Table 2 (continued). 2002 test weight (lb/bu) summary for the advanced spring wheat nursery grown across Montana.

	PEDIGREE	Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
MT 0261	ND695/MT9653	56.42	57.00	49.47	60.63	60.60	60.89	62.16	56.90	59.00	58.10	58.1	29	0.94	0.96
MT 0265	ND695/MT9755	53.40	53.80	46.77	58.13	59.60	58.84	59.86	52.50	56.50	55.00	55.4	61	1.07	0.99
MT 0266	ND695/MT9755	54.98	54.20	47.17	59.83	59.53	58.92	61.01	53.10	57.30	55.00	56.1	58	1.09	0.99
MT 9918	MT9328/MT9419	57.19	55.70	50.24	60.43	61.13	60.56	61.77	54.60	58.70	58.00	57.8	36	0.94	0.99
MT 9929	CHOTEAU	57.98	55.70	51.08	61.23	61.43*	61.58	62.76	54.50	58.90	57.20	58.2	27	0.96	0.96
MT 9955	McNeal/KS27//MCNEAL	52.82	57.40	47.61	58.13	60.97	59.71	62.49	53.00	58.20	55.50	56.6	50	1.12	0.90
MTHW0002	MTHW9520/MTHW9427	55.41	53.30	47.55	60.37	62.2*	58.99	61.98	51.40	56.30	57.40	56.5	52	1.22	0.95
MTHW0201	ID377S/MTHW9701	56.77	55.70	49.59	59.97	61.10	60.75	62.34	55.20	60.00	57.20	57.9	32	0.99	0.97
MTHW0202	ID377S/MTHW9701	57.29	58.80	50.05	61.33	<u>63.57</u>	61.86	63.81*	57.90	60.50	60.20	59.5	8	1.03	0.95
MTHW0203	ID377S/MTHW9701	57.62	58.60	51.27	61.13	64.23*	62.45	61.74	55.70	61.20	59.00	59.3	11	0.96	0.92
MTHW0204	MTHW9427/MT9410	53.82	51.60	47.02	60.37	62.63*	57.15	62.04	52.80	55.40	54.90	55.8	60	1.24	0.91
MTHW9901	MT9311/MTHW9417	57.76	56.40	51.52	61.70	60.83	60.79	63.11	57.70	58.00	60.30	58.8	17	0.84	0.91
ND 695	Reeder	57.37	56.30	51.20	62.77*	60.80	61.33	63.02	54.50	58.60	59.00	58.5	21	0.97	0.95
PI527682	AMIDON	56.78	54.50	51.48	60.03	59.43	60.46	62.36	56.10	59.50	58.20	57.9	33	0.82	0.92
PI549275	HI-LINE	56.55	55.20	47.04	60.07	63.33*	60.20	62.78	51.70	56.10	54.00	56.7	49	1.28	0.91
PI574642	MCNEAL	53.86	56.90	48.76	58.60	61.57*	59.76	62.93	54.00	58.00	55.50	57.0	45	1.06	0.92
PI592761	ERNEST	56.79	55.90	50.82	61.03	60.93	62.13	62.55	56.90	59.40	58.90	58.5	22	0.92	0.96
PI607557	SCHOLAR	57.21	56.70	52.28	61.13	60.60	60.79	63.55	57.20	60.20	60.30	59.0	13	0.82	0.94
PI612605	MTHW9420	55.51	54.80	47.29	61.63	62.33*	59.04	61.18	53.50	57.40	55.20	56.8	47	1.18	0.95
PI619086	EXPLORER	56.59	56.70	49.10	60.33	61.9*	60.49	61.31	55.60	59.20	58.10	57.9	34	0.99	0.98
PI632252	OUTLOOK	54.27	54.70	48.20	59.23	60.83	60.16	61.80	52.90	57.10	53.90	56.3	56	1.10	0.95
SX1501B	SEEDS SX1501B	52.55	50.20	50.00	57.00	58.77	55.00	60.88	52.00	55.20	51.10	54.3	64	0.84	0.72
SX1502B	SEEDS SX1502B	50.66	50.40	48.04	57.33	58.70	57.30	59.91	51.50	53.60	56.50	54.4	63	1.00	0.86
WB 926	WESTBRED 926	56.75	55.20	48.97	60.93	61.33*	59.59	60.89	53.60	58.10	57.80	57.3	43	1.02	0.98
*****	SITE MEAN *****	56.19	56.02	49.77	60.74	61.30	60.50	62.31	54.87	58.69	57.82	57.8		1.00	1.00
	C.V. (S/MEAN %)	2.06	1 REP	1.45	1.77	2.26	0.94	1.32	1 REP	1 REP	1 REP	1.95			
	LSD (.05)	1.92		1.22	1.74	2.23	0.94	1.36				1.0			

Means followed by an asterisk are not significantly different at the .05 level when compared to the highest yielding wheat which is underlined

Table 3. 2002 protein content (percent) summary for the advanced spring wheat nursery grown across Montana.

PEDIGREE		Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
AgriPro1	NORPRO	18.0	17.2	19.7	11.4	15.3	14.9	15.0	18.2	16.0	15.7	16.1	52	1.11	0.98
AgriPro2	KNUDSON	19.2	16.9	18.2	13.3	16.6	15.7	15.0	18.4	16.2	15.5	16.5	39	0.81	0.87
BZ992322	HANK	19.0	18.3	19.7	13.1	14.6	15.1	15.5	19.6	16.7	15.9	16.7	25	1.08	0.93
BZ992588	Conan	18.2	17.7	19.6	14.0	16.0	14.8	15.6	18.9	17.1	15.7	16.8	18	0.87	0.94
BZ996434	BORDER/CONAN	19.3	18.0	19.6	13.1	17.1	14.3	15.9	19.3	16.8	15.4	16.9	13	1.05	0.92
BZ996472	BZ992-634/GOLDEN86	17.1	15.1	18.0	12.1	16.2	13.9	13.8	15.8	14.5	14.3	15.1	64	0.77	0.81
BZ998447	SPILLMAN/906R	17.5	16.9	19.8	11.4	15.5	13.9	14.3	17.6	15.4	15.8	15.8	57	1.11	0.95
CI 10003	THATCHER	20.3	18.5	20.5	12.2	16.9	15.4	16.8	20.0	18.1	17.0	17.6	1	1.22	0.96
CI 13596	FORTUNA	18.6	16.8	20.0	13.0	15.6	14.5	16.7	18.4	16.4	15.9	16.6	31	0.98	0.96
CI 17430	NEWANA	17.5	17.3	20.1	12.2	13.9	13.6	15.0	17.8	15.3	14.7	15.7	58	1.13	0.94
GM40004	BR 7030	17.4	15.1	19.8	11.7	16.2	14.1	13.5	17.1	14.5	14.4	15.4	63	1.04	0.85
GM40019	PLATA	16.8	16.2	19.1	13.0	14.6	15.2	14.2	17.7	15.9	14.2	15.7	59	0.84	0.88
GM40020	BLANCA GRANDE	17.4	14.8	19.0	11.5	16.8	14.4	14.9	17.0	15.2	14.8	15.6	61	0.92	0.82
MCNB	MCNEAL LARGE SEED	19.3	17.2	19.9	12.8	14.8	14.7	16.0	19.1	17.9	15.8	16.7	26	1.10	0.93
MT 0009	MCNEAL/MT9410	18.0	16.7	19.6	11.2	15.3	14.6	15.7	18.6	15.9	14.6	16.0	53	1.16	0.97
MT 0013	MCNEAL/MT9410	18.8	16.9	20.0	12.8	16.1	14.5	15.2	19.1	16.5	15.7	16.6	32	1.08	0.97
MT 0103	BZ992632/MCNEAL	18.3	17.9	19.6	13.2	15.5	15.9	16.1	19.1	17.6	15.8	16.9	14	0.93	0.95
MT 0112	ERNEST/MT9410	19.1	18.0	19.4	14.3	16.1	15.6	16.3	18.8	16.5	16.6	17.1*	7	0.81	0.97
MT 0118	ERNEST/MT9410	19.4	18.4	19.6	14.8	15.9	15.9	16.8	19.3	17.2	16.5	17.4*	2	0.81	0.94
MT 0134	MT9410/ERNEST	19.1	18.0	20.5	12.8	15.8	17.4	16.1	19.2	17.0	15.3	17.1*	8	1.04	0.89
MT 0147	MT9565/ERNEST	19.4	18.0	19.3	13.2	16.7	14.8	16.6	18.1	16.9	16.6	17.0	10	0.90	0.92
MT 0148	MT9565/ERNEST	18.8	17.3	20.1	12.2	15.6	14.3	16.4	18.9	16.6	16.0	16.6	33	1.13	0.98
MT 0202	MCNEAL/GRANDIN	18.4	16.6	19.5	13.6	17.4	15.4	16.4	18.1	16.4	16.2	16.8	19	0.77	0.90
MT 0205	MCNEAL/MT8808	18.8	17.0	20.0	12.7	15.4	16.1	15.5	18.6	16.7	16.8	16.8	20	0.99	0.95
MT 0212	MCNEAL/MT8808	18.3	17.3	19.9	13.1	15.8	15.3	16.1	18.2	16.0	16.5	16.6	34	0.91	0.97
MT 0220	MCNEAL/ND695	19.6	17.4	20.1	12.6	17.1	15.5	17.4	19.8	17.4	16.9	17.4*	3	1.05	0.93
MT 0225	ND695/MCNEAL	18.8	17.1	19.9	13.0	15.1	14.3	15.8	19.2	16.5	15.3	16.5	40	1.08	0.96
MT 0228	MCNEAL/WA7802	19.7	16.7	20.2	12.5	15.6	14.8	16.4	18.1	16.4	16.3	16.7	27	1.08	0.95
MT 0234	ERNEST/ND695	18.1	16.6	19.3	12.6	15.9	16.2	16.4	18.0	16.4	16.2	16.6	35	0.84	0.93
MT 0237	GRANDIN/WA7802	18.9	17.6	19.9	11.6	16.6	15.0	16.7	18.8	16.6	16.2	16.8	21	1.12	0.95
MT 0238	MT8808/MT9653	18.3	17.1	19.4	11.9	15.3	14.6	15.1	18.8	16.3	16.5	16.3	46	1.08	0.97
MT 0244	MT8808/WA7802	18.7	17.0	20.0	13.0	16.5	15.4	15.6	19.0	17.1	16.5	16.9	15	0.98	0.97
MT 0245	MT9433/ND695	18.4	16.9	20.3	12.5	15.6	14.2	16.0	18.2	16.4	14.3	16.3	47	1.10	0.95
MT 0247	MT9433/ND695	18.6	17.6	19.6	14.1	16.3	17.0	16.4	18.8	16.6	15.8	17.1*	9	0.76	0.92
MT 0248	ND695/MT9433	19.4	17.3	19.7	12.0	15.5	14.5	16.4	19.6	17.0	15.3	16.7	28	1.19	0.96
MT 0249	ND695/MT9433	18.6	17.7	19.9	14.7	16.5	14.2	16.2	19.1	16.4	16.1	16.9	16	0.85	0.87
MT 0252	ND695/MT9433	17.9	16.9	19.8	12.5	16.6	14.3	15.9	18.5	16.7	15.8	16.5	41	0.99	0.95
MT 0253	MT9542/ND695	18.5	17.4	19.2	12.1	15.6	14.6	16.6	18.5	16.3	16.4	16.5	42	1.00	0.94
MT 0255	MT9755/WA7802	18.9	17.1	19.6	12.6	15.9	14.4	15.1	18.0	16.1	15.9	16.4	45	1.02	0.97
MT 0260	MT9653/REEDER	17.7	17.2	19.2	12.5	14.8	15.4	15.3	17.7	15.7	14.9	16.0	54	0.92	0.96

(continued)

Table 3 (continued). 2002 protein content (percent) summary for the advanced spring wheat nursery grown across Montana.

PEDIGREE		Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
MT 0261	ND695/MT9653	18.8	17.4	19.9	11.8	15.9	15.1	15.6	18.1	16.7	16.4	16.6	36	1.08	0.97
MT 0265	ND695/MT9755	19.7	18.0	20.2	13.5	15.9	15.3	16.5	19.0	17.6	16.9	17.3*	5	1.00	0.97
MT 0266	ND695/MT9755	18.5	17.2	19.5	13.8	17.5	15.1	16.5	17.8	16.4	16.1	16.8	22	0.76	0.89
MT 9918	MT9328/MT9419	18.6	17.6	19.4	12.4	14.8	14.3	15.4	18.3	16.4	15.0	16.2	49	1.07	0.97
MT 9929	CHOTEAU	18.6	17.4	19.8	12.9	15.4	15.3	15.8	18.8	17.3	17.2	16.9	17	0.97	0.94
MT 9955	McNeal/KS27//MCNEAL	19.6	17.0	20.5	12.4	14.7	15.2	15.8	18.9	16.4	16.7	16.7	29	1.16	0.95
MTHW0002	MTHW9520/MTHW9427	17.9	17.2	20.1	11.5	14.2	14.2	14.2	18.2	15.5	14.4	15.7	60	1.24	0.97
MTHW0201	ID377S/MTHW9701	18.0	17.2	20.2	14.2	15.9	15.3	15.4	18.9	15.5	15.4	16.6	37	0.88	0.90
MTHW0202	ID377S/MTHW9701	17.2	16.3	20.1	12.4	16.0	15.3	15.0	17.2	15.6	15.0	16.0	55	0.92	0.90
MTHW0203	ID377S/MTHW9701	17.9	16.0	19.8	13.3	15.9	15.5	15.1	18.0	15.4	15.1	16.2	50	0.87	0.91
MTHW0204	MTHW9427/MT9410	18.0	17.4	19.9	10.9	13.8	14.3	13.3	17.5	15.7	15.6	15.6	62	1.25	0.93
MTHW9901	MT9311/MTHW9417	18.1	18.0	19.7	12.3	15.3	14.7	15.2	17.5	16.6	15.4	16.3	48	1.02	0.96
ND 695	Reeder	18.3	17.1	19.8	12.3	15.9	14.6	16.8	18.7	17.3	16.0	16.7	30	1.02	0.94
PI527682	AMIDON	18.7	18.2	20.0	13.7	14.3	15.8	16.2	18.5	16.5	16.0	16.8	23	0.93	0.89
PI549275	HI-LINE	19.1	17.7	20.3	13.5	15.7	14.8	14.9	19.4	17.5	17.0	17.0	11	1.05	0.92
PI574642	MCNEAL	19.1	16.7	20.3	11.8	14.8	15.0	16.7	18.5	16.7	15.5	16.5	43	1.16	0.95
PI592761	ERNEST	19.7	18.7	19.9	13.8	15.7	16.4	17.5	18.5	17.3	17.0	17.4*	4	0.87	0.91
PI607557	SCHOLAR	19.4	18.1	20.0	12.6	16.3	17.5	16.5	19.2	17.5	16.3	17.3*	6	0.99	0.90
PI612605	MTHW9420	17.5	16.9	20.0	12.0	15.7	13.9	14.6	17.6	15.6	15.9	16.0	56	1.06	0.95
PI619086	EXPLORER	17.7	17.6	20.5	13.8	16.1	15.5	15.3	18.2	15.7	15.3	16.6	38	0.90	0.90
PI632252	OUTLOOK	18.4	17.5	20.2	12.4	14.1	14.2	16.4	18.4	16.3	16.8	16.5	44	1.10	0.91
SX1501B	SEEDS SX1501B	19.0	16.9	19.7	12.0	13.5	16.5	14.2	17.4	16.5	16.2	16.2	51	1.05	0.81
SX1502B	SEEDS SX1502B	19.1	17.7	20.2	13.3	14.4	16.2	15.4	18.8	16.8	15.9	16.8	24	1.02	0.91
WB 926	WESTBRED 926	19.4	17.8	20.2	13.6	16.2	15.4	15.4	19.3	16.7	15.9	17.0	12	1.02	0.97
*****	SITE MEAN *****	18.6	17.2	19.8	12.7	15.7	15.1	15.7	18.5	16.5	15.8	16.6		1.00	1.00
	C.V. (S/MEAN %)	1 rep	1 rep	1 rep	1 rep	1 rep	1 rep	1 rep	1 rep	1 rep	1 rep	3.68			
	LSD (.05)											0.54			

Means followed by an asterisk are not significantly different at the .05 level when compared to the highest yielding wheat which is underlined

Table 4. 2002 heading date (days from Jan 1) summary for the advanced spring wheat nursery grown across Montana.

PEDIGREE		Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
AgriPro1	NORPRO	177.6	181.0	183.0	166.7	166.2	169.3	174.1	184.0	180.0	173.3	175.5	39	0.91	0.98
AgriPro2	KNUDSON	179.8	183.0	182.7	166.7	165.9	170.0	175.9	184.0	180.0	173.0	176.1	47	0.95	1.00
BZ992322	HANK	176.8	180.0	181.0	164.0	162.9*	166.7	173.0	182.0	180.0	170.3	173.7	12	1.02	1.00
BZ992588	Conan	179.7	181.0	181.7	165.0	164.9	168.0	175.8	184.0	179.0	171.4	175.0	32	0.99	0.99
BZ996434	BORDER/CONAN	178.6	181.0	180.7	164.0	163.7	167.0	174.1	183.0	180.0	170.3	174.2	22	1.04	1.00
BZ996472	BZ992-634/GOLDEN86	175.7	180.0	180.7	162.3	162.5*	166.0*	170.7*	181.0	177.0	167.0*	172.3	4	1.03	0.98
BZ998447	SPILLMAN/906R	177.3	180.0	180.0	163.3	163.0	166.7	173.3	182.0	179.0	169.1	173.4	9	1.02	1.00
CI 10003	THATCHER	183.9	185.0	186.3	167.7	168.0	172.0	179.9	187.0	183.0	177.0	179.0	63	1.02	0.98
CI 13596	FORTUNA	177.9	183.0	182.7	166.0	166.4	169.3	175.5	184.0	181.0	173.3	175.9	46	0.96	1.00
CI 17430	NEWANA	181.5	185.0	184.7	167.3	168.4	171.0	179.7	188.0	183.0	175.6	178.4	62	1.03	0.99
GM40004	BR 7030	178.9	182.0	181.4	165.0	164.3	167.3	173.9	185.0	180.0	169.7	174.7	29	1.06	0.98
GM40019	PLATA	179.9	180.0	181.0	166.0	166.2	168.7	177.7	185.0	178.0	173.0	175.5	40	0.91	0.96
GM40020	BLANCA GRANDE	173.9	179.0	177.0	161.0*	162.1*	165.7	169.9	180.0	176.0	167.0*	171.2	1	0.97	0.99
MCNB	MCNEAL LARGE SEED	180.3	183.0	183.7	166.3	167.0	170.7	179.4	186.0	181.0	173.7	177.1	55	0.99	0.99
MT 0009	MCNEAL/MT9410	179.0	181.0	181.4	163.3	163.6	167.0	173.7	183.0	180.0	170.0	174.2	23	1.07	1.00
MT 0013	MCNEAL/MT9410	177.3	180.0	181.0	163.7	164.0	167.3	174.1	183.0	180.0	170.0	174.0	16	1.02	1.00
MT 0103	BZ992632/MCNEAL	181.2	184.0	184.7	166.0	168.7	170.0	178.2	187.0	180.0	173.7	177.3	57	1.01	0.98
MT 0112	ERNEST/MT9410	174.6*	181.0	182.3	164.0	163.9	167.7	173.0	182.0	180.0	171.4	174.0	17	0.99	0.97
MT 0118	ERNEST/MT9410	175.1*	180.0	182.3	165.0	163.8	168.0	173.0	184.0	179.0	173.0	174.3	25	0.97	0.97
MT 0134	MT9410/ERNEST	178.1	183.0	184.0	165.7	166.3	170.3	176.0	187.0	179.0	174.3	176.4	49	1.00	0.97
MT 0147	MT9565/ERNEST	175.0*	181.0	179.6	161.7*	162.3*	166.3*	171.0	182.0	178.0	169.4	172.6	6	1.05	0.99
MT 0148	MT9565/ERNEST	181.8	182.0	183.3	165.0	165.2	170.0	177.4	185.0	182.0	172.3	176.4	50	1.06	0.99
MT 0202	MCNEAL/GRANDIN	176.9	180.0	180.7	162.7	163.3	167.0	172.1	183.0	179.0	169.0	173.4	10	1.05	1.00
MT 0205	MCNEAL/MT8808	178.7	182.0	184.0	165.0	165.0	169.0	175.4	185.0	181.0	172.7	175.8	44	1.05	1.00
MT 0212	MCNEAL/MT8808	178.0	181.0	182.3	163.7	164.0	167.7	173.5	184.0	180.0	171.4	174.6	27	1.06	1.00
MT 0220	MCNEAL/ND695	180.3	181.0	182.0	164.7	163.9	168.7	174.9	184.0	181.0	170.0	175.0	33	1.05	0.98
MT 0225	ND695/MCNEAL	180.2	182.0	185.0	165.3	166.1	170.0	178.1	187.0	182.0	174.0	177.0	53	1.07	0.99
MT 0228	MCNEAL/WA7802	180.8	182.0	183.0	166.3	167.3	170.3	176.6	185.0	182.0	171.7	176.5	51	0.97	0.99
MT 0234	ERNEST/ND695	175.8	180.0	179.4	164.3	164.1	167.0	171.7	181.0	178.0	169.4	173.1	8	0.91	0.99
MT 0237	GRANDIN/WA7802	177.5	180.0	181.0	163.3	163.6	167.0	172.4	182.0	180.0	170.0	173.7	13	1.02	0.99
MT 0238	MT8808/MT9653	173.9	180.0	179.0	161.0*	162.9*	165.7	170.7*	181.0	178.0	167.4*	172.0*	3	1.03	0.98
MT 0244	MT8808/WA7802	178.4	181.0	183.0	164.7	165.6	168.0	175.4	185.0	181.0	173.0	175.5	41	1.03	1.00
MT 0245	MT9433/ND695	180.0	183.0	183.4	166.0	165.7	170.0	176.0	184.0	181.0	173.4	176.2	48	0.99	1.00
MT 0247	MT9433/ND695	177.4	183.0	180.0	163.0	163.9	167.7	171.7	182.0	180.0	170.0	173.9	15	1.04	0.97
MT 0248	ND695/MT9433	179.1	182.0	182.0	164.0	164.0	168.7	174.0	184.0	181.0	172.7	175.1	36	1.06	1.00
MT 0249	ND695/MT9433	177.2	181.0	180.7	164.0	164.1	167.3	173.3	183.0	180.0	170.0	174.1	20	1.01	0.99
MT 0252	ND695/MT9433	177.4	181.0	183.0	165.0	164.3	169.0	174.2	184.0	179.0	171.6	174.9	31	1.00	1.00
MT 0253	MT9542/ND695	180.9	183.0	184.7	166.0	165.6	171.0	177.7	185.0	182.0	173.7	177.0	54	1.03	0.99
MT 0255	MT9755/WA7802	178.9	181.0	181.0	165.3	166.1	167.0	174.0	183.0	180.0	171.6	174.8	30	0.95	0.99
MT 0260	MT9653/REEDER	180.9	182.0	184.7	166.7	166.9	171.0	179.0	186.0	181.0	175.0	177.3	58	0.97	0.98

(continued)

Table 4 (continued). 2002 heading date (days from Jan 1) summary for the advanced spring wheat nursery grown across Montana.

PEDIGREE		Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
MT 0261	ND695/MT9653	177.9	181.0	182.3	165.7	165.3	169.0	174.3	184.0	180.0	171.3	175.1	37	0.97	1.00
MT 0265	ND695/MT9755	177.7	180.0	180.4	164.0	164.0	167.0	174.1	183.0	179.0	170.7	174.0	18	0.99	1.00
MT 0266	ND695/MT9755	177.3	180.0	180.4	164.0	163.4	166.3*	172.9	182.0	179.0	169.3	173.5	11	1.00	0.99
MT 9918	MT9328/MT9419	177.5	181.0	181.0	164.0	164.0	167.3	173.4	182.0	180.0	171.4	174.2	24	0.99	0.99
MT 9929	CHOTEAU	178.6	181.0	183.0	165.0	166.8	168.7	174.1	183.0	179.0	172.0	175.1	38	0.93	0.98
MT 9955	McNeal/KS27//MCNEAL	180.1	182.0	183.0	165.7	166.7	170.0	178.2	186.0	182.0	172.4	176.6	52	1.01	0.98
MTHW0002	MTHW9520/MTHW9427	176.3	181.0	181.0	164.0	165.0	167.0	172.7	183.0	179.0	171.7	174.1	21	0.97	0.98
MTHW0201	ID377S/MTHW9701	178.5	180.0	181.0	165.0	164.8	167.0	174.0	184.0	180.0	169.3	174.4	26	1.00	0.98
MTHW0202	ID377S/MTHW9701	174.2*	179.0	178.4	<u>160.3</u>	162.1*	166.0*	<u>169.9</u>	181.0	175.0	<u>166.6</u>	171.2*	2	1.01	0.98
MTHW0203	ID377S/MTHW9701	177.1	181.0	180.3	164.7	164.3	167.0	172.9	181.0	179.0	170.3	173.8	14	0.94	0.99
MTHW0204	MTHW9427/MT9410	177.9	182.0	182.0	165.3	164.9	168.0	174.0	184.0	179.0	172.6	175.0	34	0.98	0.99
MTHW9901	MT9311/MTHW9417	179.0	182.0	182.3	165.7	167.1	169.7	175.4	184.0	179.0	172.7	175.7	42	0.92	0.99
ND 695	Reeder	179.2	180.0	182.7	165.3	164.2	168.0	174.0	184.0	180.0	173.0	175.0	35	1.00	0.99
PI527682	AMIDON	177.7	182.0	182.3	166.3	167.4	170.0	174.7	184.0	181.0	173.0	175.8	45	0.90	0.99
PI549275	HI-LINE	179.4	180.0	180.7	163.7	163.6	167.0	174.0	183.0	179.0	169.7	174.0	19	1.03	0.99
PI574642	MCNEAL	180.7	183.0	183.7	167.0	167.1	171.0	179.2	187.0	182.0	173.1	177.4	59	1.00	0.98
PI592761	ERNEST	177.5	183.0	182.4	166.0	166.0	170.0	175.3	183.0	180.0	173.7	175.7	43	0.92	0.99
PI607557	SCHOLAR	180.3	184.0	183.4	166.7	166.7	171.0	178.8	186.0	181.0	174.3	177.2	56	0.98	0.98
PI612605	MTHW9420	178.4	180.0	181.7	165.0	164.9	167.0	173.1	184.0	180.0	171.7	174.6	28	1.00	0.99
PI619086	EXPLORER	175.1*	179.0	179.0	163.0	162.4*	166.0*	171.5	181.0	178.0	168.3	172.3	5	0.98	1.00
PI632252	OUTLOOK	180.0	183.0	184.3	167.0	167.4	171.0	178.8	188.0	183.0	175.4	177.8	60	1.01	0.98
SX1501B	SEEDS SX1501B	183.9	186.0	187.6	168.0	170.0	174.0	182.5	190.0	186.0	177.7	180.6	64	1.06	0.98
SX1502B	SEEDS SX1502B	181.4	185.0	184.7	167.7	167.2	171.0	180.0	187.0	182.0	175.7	178.2	61	1.01	0.98
WB 926	WESTBRED 926	176.2	180.0	180.0	162.7	<u>162.0</u>	166.0*	171.3	182.0	178.0	169.6	172.8	7	1.04	0.99
*****	SITE MEAN *****	178.4	181.5	182.1	164.8	165.1	168.5	174.8	183.9	180.0	171.7	175.1		1.00	1.00
	C.V. (S/MEAN %)	0.52	1 REP	0.35	0.55	0.34	0.24	0.34	1 REP	1 REP	0.52	0.49			
	LSD (.05)	1.56		1.03	1.47	0.93	0.65	0.98			1.45	0.76			

Means followed by an asterisk are not significantly different at the .05 level when compared to the highest yielding wheat which is underlined

Table 5. 2002 plant height (inches) summary for the advanced spring wheat nursery grown across Montana.

PEDIGREE		Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
AgriPro1	NORPRO	20.0	30.0	24.0	29.1	32.1	29.9	34.3	27.7	31.6	31.3	29.0	58	0.84	0.96
AgriPro2	KNUDSON	19.9	33.0	24.3	30.5	34.5	31.3	37.1	28.5	32.0	32.7	30.4	34	1.01	0.98
BZ992322	HANK	19.2	33.0	26.0*	28.8	30.4	30.1	36.5	28.0	31.5	31.0	29.4	51	0.91	0.94
BZ992588	Conan	20.5	30.0	23.3	28.6	29.1	30.7	36.0	27.3	32.0	32.2	29.0	59	0.88	0.94
BZ996434	BORDER/CONAN	20.1	33.0	23.0	30.4	32.3	32.0	37.1	30.4	33.6	31.9	30.4	35	1.02	0.97
BZ996472	BZ992-634/GOLDEN86	19.9	32.0	24.7*	30.1	29.1	29.9	34.8	27.9	30.9	31.0	29.0	60	0.82	0.94
BZ998447	SPILLMAN/906R	21.3	35.0	25.3*	31.0	35.0	32.2	38.5	30.6	32.4	32.7	31.4	22	1.00	0.98
CI 10003	THATCHER	24.4	43.0	25.3*	37.2	45.1	39.9*	45.9	37.1	41.6	44.6	38.4	1	1.52	0.92
CI 13596	FORTUNA	23.4*	41.0	27.3*	32.5	38.1	39.0*	42.3	36.6*	40.2*	39.8	36.0	2	1.24	0.93
CI 17430	NEWANA	20.8	31.0	23.3	27.3	32.9	29.5	36.0	27.5	32.2	31.7	29.2	53	0.92	0.96
GM40004	BR 7030	20.1	33.0	24.7*	28.7	30.9	30.5	35.2	28.3	30.3	30.7	29.2	54	0.86	0.98
GM40019	PLATA	18.5	28.0	23.3	25.5	26.1	26.2	32.4	25.0	26.8	27.7	26.0	63	0.69	0.92
GM40020	BLANCA GRANDE	17.1	29.0	25.3*	26.3	27.7	27.4	30.8	26.2	27.9	27.2	26.5	62	0.69	0.86
MCNB	MCNEAL LARGE SEED	21.9*	35.0	24.7*	29.7	35.0	33.4	40.1	29.1	33.3	33.6	31.6	20	1.08	0.98
MT 0009	MCNEAL/MT9410	21.4	33.0	25.0*	29.9	29.8	31.2	36.4	28.7	32.2	32.0	29.9	44	0.84	0.96
MT 0013	MCNEAL/MT9410	19.1	31.0	23.0	27.6	29.3	29.7	33.6	25.2	30.4	31.0	28.0	61	0.88	0.97
MT 0103	BZ992632/MCNEAL	20.4	35.0	23.3	30.3	35.6	32.4	39.6	28.6	32.1	32.1	30.9	30	1.14	0.96
MT 0112	ERNEST/MT9410	23.2*	36.0	24.7*	33.2	33.9	36.1	41.8	31.7	35.3	36.6	33.3	10	1.11	0.95
MT 0118	ERNEST/MT9410	22.0*	36.0	23.7	31.7	33.3	35.3	40.5	30.7	33.8	34.8	32.2	16	1.12	0.96
MT 0134	MT9410/ERNEST	23.3*	38.0	25.0*	33.2	39.0	35.8	40.1	31.4	35.9	37.4	33.9	8	1.14	0.94
MT 0147	MT9565/ERNEST	22.7*	34.0	25.0*	28.4	33.0	31.3	36.8	28.2	32.0	30.7	30.2	37	0.84	0.95
MT 0148	MT9565/ERNEST	14.5	33.0	25.0*	28.9	35.3	33.2	40.3	28.7	33.3	32.9	30.5	33	1.40	0.96
MT 0202	MCNEAL/GRANDIN	21.2	35.0	26.7*	31.5	35.1	32.9	38.3	30.3	33.2	32.7	31.7	19	0.97	0.98
MT 0205	MCNEAL/MT8808	21.6	32.0	25.7*	28.6	33.0	31.1	36.4	29.0	32.7	31.2	30.1	38	0.84	0.98
MT 0212	MCNEAL/MT8808	20.1	33.0	24.7*	29.7	28.3	30.7	36.0	27.0	31.4	30.9	29.2	55	0.88	0.92
MT 0220	MCNEAL/ND695	20.3	33.0	24.7*	29.0	31.9	42.4	37.3	28.7	31.4	31.4	31.0	29	1.03	0.68
MT 0225	ND695/MCNEAL	21.0	34.0	23.7	30.0	31.9	31.3	37.5	27.9	32.6	31.4	30.1	39	0.98	0.98
MT 0228	MCNEAL/WA7802	22.0*	34.0	23.3	30.5	33.3	33.8	39.4	30.7	33.9	33.3	31.4	23	1.05	0.98
MT 0234	ERNEST/ND695	22.0	32.0	24.7*	31.5	34.5	32.7	38.1	30.0	33.4	33.1	31.2	25	0.94	0.96
MT 0237	GRANDIN/WA7802	21.1	33.0	24.7*	31.0	33.1	31.2	39.2	31.6	34.0	32.2	31.1	28	0.99	0.95
MT 0238	MT8808/MT9653	21.3	36.0	28.0*	33.2	32.9	33.9	39.6	31.6	33.5	35.5	32.5	13	0.98	0.94
MT 0244	MT8808/WA7802	21.1	33.0	25.3*	28.1	31.2	30.4	36.5	27.1	33.1	31.5	29.7	46	0.88	0.95
MT 0245	MT9433/ND695	22.6*	33.0	25.3*	29.8	34.6	33.2	38.5	29.2	33.2	33.6	31.3	24	0.94	0.98
MT 0247	MT9433/ND695	22.0*	35.0	27.0*	32.1	34.4	33.0	38.9	30.8	35.0	33.9	32.2	17	0.96	0.99
MT 0248	ND695/MT9433	21.0	34.0	24.3	29.9	30.9	32.5	36.8	29.6	32.1	34.4	30.6	32	0.95	0.96
MT 0249	ND695/MT9433	20.7	34.0	24.7*	30.4	31.5	31.2	37.1	28.8	31.3	30.1	30.0	43	0.91	0.95
MT 0252	ND695/MT9433	20.3	34.0	23.7	31.9	32.5	32.6	38.1	29.2	32.5	32.6	30.7	31	1.04	0.98
MT 0253	MT9542/ND695	21.4	35.0	24.7*	30.9	35.6	33.3	41.0	31.4	36.6	36.5	32.6	12	1.18	0.97
MT 0255	MT9755/WA7802	22.4*	34.0	26.0*	32.5	36.8	32.8	40.1	32.3	35.1	34.8	32.7	11	1.02	0.96
MT 0260	MT9653/REEDER	23.1*	34.0	26.0*	28.4	37.4	35.4	40.4	31.3	35.8	33.7	32.5	14	1.04	0.91

(continued)

Table 5 (continued). 2002 plant height (inches) summary for the advanced spring wheat nursery grown across Montana.

	PEDIGREE	Havre DRY	Conrad DRY	Moccasin DRY	Huntley DRY	Huntley IRR	Sidney DRY	Sidney IRR	Bozeman DRY	Bozeman IRR	Kalispell	AVG	Rank	BYX	RSQ
MT 0261	ND695/MT9653	21.6*	37.0	25.3*	32.2	38.5	36.1	41.9	32.5	37.0	37.3	33.9	9	1.26	0.98
MT 0265	ND695/MT9755	21.4	35.0	25.3*	31.0	36.0	32.5	40.7	31.2	35.7	35.5	32.4	15	1.13	0.98
MT 0266	ND695/MT9755	21.5	33.0	25.3*	32.2	33.0	30.6	39.4	31.1	35.1	33.7	31.5	21	0.98	0.93
MT 9918	MT9328/MT9419	21.5	38.0	26.7*	34.2	37.3	36.7	41.7	32.7	35.7	37.3	34.2	6	1.20	0.98
MT 9929	CHOTEAU	19.7	33.0	22.7	28.6	33.2	31.2	35.9	28.6	31.7	31.4	29.6	48	1.00	0.98
MT 9955	McNeal/KS27//MCNEAL	20.9	31.0	24.7*	29.0	31.3	32.0	37.8	27.7	32.0	30.4	29.7	47	0.91	0.96
MTHW0002	MTHW9520/MTHW9427	20.3	32.0	25.0*	30.2	32.5	31.0	37.4	29.5	34.2	31.6	30.4	36	0.96	0.97
MTHW0201	ID377S/MTHW9701	20.0	32.0	26.0*	27.7	33.2	31.2	35.5	29.4	32.3	30.7	29.8	45	0.87	0.95
MTHW0202	ID377S/MTHW9701	20.2	32.0	24.3	29.5	33.9	30.9	37.4	29.1	31.3	32.3	30.1	40	0.98	0.98
MTHW0203	ID377S/MTHW9701	20.4	34.0	26.0*	28.0	31.9	32.7	36.0	28.0	32.2	31.9	30.1	41	0.91	0.95
MTHW0204	MTHW9427/MT9410	20.1	32.0	25.3*	30.1	34.1	31.3	36.1	28.3	32.0	32.0	30.1	42	0.92	0.97
MTHW9901	MT9311/MTHW9417	20.8	37.0	26.0*	33.3	37.2	37.0	42.6	32.7	36.1	38.1	34.1	7	1.29	0.99
ND 695	Reeder	21.3	34.0	25.7*	30.4	35.5	33.4	40.5	30.7	35.1	35.2	32.2	18	1.10	0.98
PI527682	AMIDON	22.2*	40.0	25.3*	33.3	40.6	37.7	44.3	34.3	36.4	39.7	35.4	3	1.39	0.97
PI549275	HI-LINE	19.7	33.0	23.3	28.6	31.7	29.4	37.1	28.3	30.8	30.6	29.2	56	0.98	0.98
PI574642	MCNEAL	21.8*	34.0	25.0*	29.8	35.1	33.2	39.0	29.6	33.1	31.8	31.2	26	1.00	0.97
PI592761	ERNEST	24.2*	39.0	26.0*	34.0	38.6	37.3	43.1	33.1	37.8	39.1	35.2	4	1.21	0.97
PI607557	SCHOLAR	22.7*	40.0	26.7*	34.3	37.7	36.9	41.1	32.8	35.7	37.3	34.5	5	1.16	0.96
PI612605	MTHW9420	18.7	31.0	24.7*	28.4	29.9	32.0	37.9	28.6	31.4	31.4	29.4	52	1.00	0.95
PI619086	EXPLORER	21.0	31.0	25.0*	30.6	28.6	30.0	36.2	29.4	32.0	31.0	29.5	50	0.79	0.90
PI632252	OUTLOOK	21.2	32.0	24.3	30.8	36.1	34.3	38.4	29.4	32.8	32.9	31.2	27	1.03	0.95
SX1501B	SEEDS SX1501B	18.3	27.0	19.7	23.3	27.4	27.5	29.2	23.2	27.0	27.0	25.0	64	0.72	0.94
SX1502B	SEEDS SX1502B	21.4	32.0	24.7*	31.5	32.6	30.1	35.2	27.5	30.8	30.1	29.6	49	0.79	0.92
WB 926	WESTBRED 926	19.3	33.0	25.7*	28.0	29.3	29.5	35.4	28.5	31.7	32.0	29.2	57	0.87	0.92
*****	SITE MEAN *****	20.9	33.8	24.9	30.3	33.5	32.6	38.0	29.6	33.2	33.1	31.0		1.00	1.00
	C.V. (S/MEAN %)	7.72	1 REP	8.31	4.74	5.18	8.37	2.30	2.42	2.54	3.95	4.43			
	LSD (.05)	2.73		3.34	2.32	2.87	4.50	1.45	1.21	1.42	2.17	1.2			

Means followed by an asterisk are not significantly different at the .05 level when compared to the highest yielding wheat which is underlined