

PROJECT TITLE: Statewide Spring Wheat Variety Performance - 2006

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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 2006 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. A summary of data across sites is shown in Table 6.

Highest yielding varieties at individual sites were MT0249 at **Havre**, MT0249 at **Moccasin**, BZ9M1044 at **Conrad**, MT0414 at **Sidney dryland**, MT0416 at **Sidney irrigated**, MT0260 at **Huntley dryland**, AgriPro 7 at **Huntley irrigated**, MT04129 at **Kalispell**, MT0266 at **Bozeman dryland**, and ACS52610 at **Bozeman irrigated**. Highest yielding lines on a statewide basis were MT0416 and MT0249 (Table 1).

Lines with the highest test weights statewide were Glenn and Agawam (Table 2). Lines with the highest protein contents statewide were MT0415 and Scholar (Table 3). Earliest heading lines were MTHW0202 and Agawam, while latest heading lines were MT0502 and Outlook (Table 4). Shortest lines were Kelby and BZ9M1044, while tallest lines were Thatcher and Fortuna (Table 5). An overall summary for the advanced spring wheat nursery grown across Montana is shown in Table 6.

SUMMARY: Highest yielding varieties at individual sites were MT0249 at Havre, MT0249 at Moccasin, BZ9M1044 at Conrad, MT0414 at Sidney dryland, MT0416 at Sidney irrigated, MT0260 at Huntley dryland, AgriPro 7 at Huntley irrigated, MT04129 at Kalispell, MT0266 at Bozeman dryland, and ACS52610 at Bozeman irrigated. Highest yielding lines on a statewide basis were MT0416 and MT0249.

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. 2006 yield (bu/ac) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
ACS52610	27.5	58.3	32.2	51.1	61.0	49.3	91.4*	85.2	61.4	<u>78.6</u>	59.6*	11	1.10	0.74
Norpro	30.9	58.0	31.7	57.2*	74.3	54.8	86.9	70.7	47.2	39.1	55.1	39	1.06	0.88
Knudson	27.8	56.9	32.5	52.1	76.0	46.1	83.2	72.4	54.8	51.3	55.3	38	1.07	0.96
Freyr	30.7	55.6	33.7*	54.9*	76.6	49.8	81.4	68.5	61.5	64.4	57.7*	24	0.98	0.94
Kelby	29.3	58.8	38.1*	50.4	67.9	37.9	69.7	77.9	47.7	49.5	52.7	52	0.83	0.75
Agripro7	26.7	56.8	38.6*	58.4*	72.5	49.9	<u>97.3</u>	67.5	54.6	53.9	57.6*	25	1.14	0.96
BW781	28.6	61.0	36.8*	55.1*	70.4	50.8	80.3	67.9	62.4	59.1	57.2	28	0.92	0.96
BZ902413	33.3	68.5	30.7	53.6	74.9	46.6	80.3	49.0	56.1	63.4	55.6	37	0.90	0.80
Hank	33.3	59.6	37.3*	55.0*	69.1	47.3	92.2*	74.0	56.8	60.6	58.5*	17	1.03	0.95
Conan	31.9	53.1	32.8	46.0	72.1	41.7	70.5	56.5	55.2	63.7	52.3	54	0.79	0.83
Corbin	29.4	56.2	33.5*	54.4	67.4	51.2	88.3*	44.8	60.8	74.5*	56.0	35	0.92	0.71
Agawam	34.5*	67.7	33.8*	54.2	65.0	50.7	85.2	87.0*	64.7*	70.2	61.3*	7	0.98	0.78
BZ999592	31.0	64.7	29.6	54.3	69.5	52.3	93.3*	58.8	63.3	58.0	57.5	27	1.08	0.94
BZ9M1024	32.3	58.7	32.9	53.8	81.1*	51.4	86.4	53.2	59.8	73.2*	58.3*	20	0.99	0.81
BZ9M1044	31.7	61.2	<u>39.2</u>	53.2	70.4	46.9	94.6*	64.5	57.7	65.5	58.5*	18	1.03	0.92
Thatcher	25.6	42.9	23.9	37.6	48.7	45.6	78.5	22.3	44.7	36.6	40.6	64	0.75	0.57
Fortuna	34.0	43.7	32.1	49.0	60.3	41.3	70.3	41.4	53.3	55.6	48.1	63	0.63	0.75
MT 0249	<u>39.6</u>	<u>70.6</u>	39.1*	57.7*	73.5	50.2	91.0*	74.5	62.8	76.3*	63.5*	2	0.95	0.86
MT 0260	32.6	62.1	35.5*	61.2*	77.6	<u>62.6</u>	96.8*	74.6	59.9	50.0	61.3*	8	1.14	0.95
MT 0266	29.7	67.9	34.8*	60.4*	78.7	53.8	83.7	66.7	<u>68.1</u>	77.6*	62.1*	5	1.01	0.84
MT 0336	32.1	63.8	32.9	54.7	76.7	57.6*	86.5	65.8	59.3	47.0	57.6*	26	1.03	0.95
MT 0405	28.7	63.5	30.8	55.6*	73.6	54.8	86.9	86.6	61.1	52.1	59.4*	13	1.15	0.90
MT 0412	31.8	60.4	36.5*	53.8	79.6*	46.7	79.1	<u>96.7</u>	53.3	47.7	58.5*	19	1.06	0.71
MT 0413	29.7	65.4	33.7*	58.8*	79.6*	51.7	89.1*	92.9*	59.7	69.1	63*	4	1.19	0.86
MT 0414	29.2	61.5	34.9*	<u>61.6</u>	80.7*	50.2	80.1	74.6	65.6*	67.3	60.6*	9	1.02	0.90
MT 0415	35.2	59.7	34.4*	58.4*	78.9	49.9	76.3	79.6	64.9*	65.5	60.3*	10	0.92	0.85
MT 0416	29.0	68.8	36.7*	61.2*	<u>86.0</u>	58.4*	87.7*	76.4	66.4*	65.2	<u>63.6</u>	1	1.13	0.96
MT 0421	34.0	48.1	34.5*	55.3*	73.4	53.7	91.8*	58.6	50.9	39.4	54.0	46	1.00	0.85
MT 0502	29.4	54.0	35.1*	59.7*	77.9	56.3	84.3	52.4	49.1	38.1	53.6	49	0.96	0.81
MT 0508	36.1	57.8	34.1*	55.2*	70.0	55.2	95.9*	59.5	46.0	39.2	54.9	40	1.02	0.83
MT 0509	32.1	56.6	35.6*	52.5	77.4	56.1	93.8*	57.8	49.0	33.0	54.4	44	1.06	0.80
MT 0515	32.3	68.3	31.8	61.1*	83.3*	56.6	92.9*	81.1	66.6*	61.2	63.5*	3	1.21	0.98
MT 0516	28.7	62.9	33.1*	61.1*	71.0	51.0	83.9	93.2*	63.4*	73.0*	62.1*	6	1.09	0.77
MT 0517	30.9	57.0	33.8*	57.2*	79.5*	52.7	82.2	88.6*	61.6	45.0	58.9*	14	1.09	0.82
MT 0519	31.3	63.6	32.1	54.5	72.2	47.0	83.1	68.2	62.6	63.0	57.8*	23	0.99	0.95
MT 0523	28.1	54.3	31.5	57.5*	78.2	53.4	89.1*	51.5	51.6	36.2	53.1	51	1.07	0.84
MT 0525	26.4	57.1	36.2*	60.3*	79.9*	48.3	79.4	74.3	57.4	46.1	56.5	33	1.03	0.89
MT 0534	30.3	53.6	34.6*	56.8*	71.7	56.2	91.4*	56.9	50.3	38.4	54.0	47	1.01	0.85
MT 0535	34.1*	57.5	31.9	56.5*	72.4	54.8	83.1	67.0	58.4	41.9	55.8	36	0.95	0.92
MT 0537	28.3	49.6	31.4	52.9	67.3	44.8	64.0	74.8	54.0	55.9	52.3	55	0.79	0.77

(continued)

Table 1 (continued). 2006 yield (bu/ac) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
MT 0539	28.3	65.2*	30.7	57.6*	69.0	54.8	89.6*	67.2	61.5	55.1	57.9*	21	1.08	0.97
MT 0540	26.5	64.6*	32.7	53.2	70.2	50.6	94.8*	59.5	59.0	55.2	56.6	32	1.13	0.96
MT 0544	32.2	58.4	33.5*	51.0	66.9	54.8	90.2*	61.2	60.4	58.0	56.7	31	0.98	0.95
MT 0550	28.3	60.5	30.8	38.0	72.3	48.9	82.0	79.2	55.0	46.8	54.2	45	1.08	0.85
MT 0551	23.2	57.7	27.6	47.6	68.0	48.0	75.2	62.4	50.9	43.9	50.4	61	0.98	0.96
MT 0553	31.2	54.4	25.6	51.8	68.0	51.0	85.4	61.0	52.9	35.5	51.7	58	1.03	0.90
MT 0562	26.1	55.8	31.7	53.4	74.9	49.0	87.4	52.9	56.6	59.0	54.7	41	1.05	0.93
MT 0563	33.4	50.2	33.8*	52.8	67.0	45.7	82.3	46.5	55.2	50.3	51.7	59	0.83	0.87
MT 0564	27.8	56.8	35.3*	54.6	70.1	51.5	80.0	54.5	49.5	42.4	52.3	56	0.89	0.91
MT 0566	34.7*	56.4	35.8*	60.1*	72.5	51.0	90.6*	57.7	54.0	51.2	56.4	34	0.96	0.93
MT 0567	36.6*	55.9	32.4	54.0	59.6	46.6	89.4*	52.0	58.1	60.2	54.5	42	0.86	0.83
MT 0570	26.6	50.0	28.5	52.4	69.0	52.2	90.5*	72.1	53.6	50.2	54.5	43	1.14	0.95
MT 0575	30.8	52.6	36.7	55.1*	80.8*	44.9	95.6*	67.8	54.9	52.8	57.2	29	1.16	0.94
MTHW0202	31.8	62.7	34.2*	56.3*	65.0	47.5	80.7	73.8	62.9	64.7	57.9*	22	0.91	0.89
MTHW0471	29.4	50.3	27.2	52.3	71.6	54.1	91.8*	32.4	56.3	55.3	52.1	57	1.00	0.69
Glenn	24.5	58.8	24.0	54.9*	76.4	46.5	63.1	73.5	52.9	50.1	52.5	53	0.95	0.78
Reeder	28.8	62.0	34.5*	59.7*	83.7*	52.5	77.6	75.1	65.4*	56.2	59.5*	12	1.02	0.90
McNeal	27.4	51.3	34.2*	52.7	69.5	57.1	89.2*	51.3	47.3	33.0	51.3	60	0.99	0.79
Ernest	26.6	54.6	22.8	48.9	69.8	50.0	84.3	50.2	48.7	48.4	50.4	62	1.06	0.94
Scholar	27.0	60.8	31.2	51.5	68.3	50.1	85.1	37.9	59.7	60.9	53.3	50	0.92	0.73
Explorer	31.2	59.0	32.8	53.2	56.5	46.0	83.3	67.6	53.1	56.5	53.9	48	0.88	0.89
Outlook	31.8	63.7*	31.5	57.4*	69.4	56.5	94.0*	63.0	54.9	48.4	57.1	30	1.07	0.94
Choteau	32.1	67.3*	33.9*	52.3	71.3	53.5	87.9*	74.2	59.3	54.8	58.7*	16	1.04	0.96
Vida	34.2*	64.6*	35.5*	60.6*	77.4	54.0	88.2*	54.5	64.8*	53.7	58.8*	15	0.96	0.90
site mean	30.44	58.75	32.98	54.62	72.24	50.82	85.31	65.33	57.04	54.50	56.20		1.00	1.00
CV (S/mean)	10.82	7.46	10.80	7.64	5.57	6.18	7.05	9.45	4.85	7.24	12.11			
LSD (.05)	5.63	7.52	6.09	6.74	6.77	5.39	9.72	9.98	4.73	6.66	5.98			

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. 2006 test weight (lb/bu) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
ACS52610	56.2	61.6	61.2	60.6	57.5	63.8	64.9	61.6	59.4	61.2	60.8	8	0.91	0.80
Norpro	51.7	56.8	58.3	59.9	60.0*	62.4	63.8	60.5	55.0	53.2	58.2	52	1.37	0.79
Knudson	54.6	58.9	60.4	60.5	60.3*	62.0	63.2	60.9	58.9	57.0	59.7	30	0.91	0.89
Freyr	55.3	60.5	61.1	60.8	59.7*	62.8	63.9	62.0	61.0	59.8	60.7	9	0.87	0.94
Kelby	57.4*	61.9	60.8	61.2	60.5*	63.2	64.4	61.9	61.0	59.8	61.2	3	0.72	0.96
Agripro7	55.7	60.0	58.3	61.4	59.0	63.1	64.3	60.4	58.7	57.9	59.9	26	0.95	0.89
BW781	51.4	58.6	56.7	60.0	57.8	62.5	63.7	61.7	59.2	58.6	59.0	40	1.28	0.90
BZ902413	55.0	60.4	59.4	60.0	60.8*	62.8	64.1	59.1	60.9	60.1	60.3	19	0.86	0.84
Hank	53.0	58.0	57.1	58.3	56.5	61.0	62.5	56.6	56.0	56.2	57.5	62	0.98	0.89
Conan	54.9	59.1	59.0	59.8	56.7	62.1	63.2	61.1	59.9	59.3	59.5	34	0.87	0.84
Corbin	54.5	59.3	59.0	59.8	59.0	63.0	64.0	58.4	60.4	61.9	59.9	27	0.88	0.72
Agawam	<u>58.3</u>	62.9	61.1	62.4*	60.7*	64.2*	64.9	62.7	62.7	62.3	62.2*	2	0.67	0.85
BZ999592	54.3	59.2	59.0	57.8	57.5	62.0	63.9	59.2	59.2	57.4	58.9	42	0.97	0.91
BZ9M1024	54.5	59.1	59.0	59.1	60.0*	62.1	63.7	62.6	59.4	59.7	59.9	28	0.93	0.89
BZ9M1044	55.6	60.0	59.8	61.3	59.3	62.8	64.4	60.0	59.8	60.6	60.4	13	0.85	0.90
Thatcher	51.0	57.6	55.4	54.2	57.3	59.4	62.9	57.9	56.6	55.4	56.8	64	1.15	0.86
Fortuna	56.5	60.3	60.6	59.3	59.5*	62.2	63.7	58.3	61.7	60.3	60.2	22	0.64	0.66
MT 0249	55.7	59.5	59.0	60.1	59.0	62.8	63.9	61.0	59.4	60.2	60.1	24	0.84	0.93
MT 0260	52.7	59.2	59.1	58.9	59.8*	62.7	63.5	61.2	57.3	57.7	59.2	36	1.16	0.95
MT 0266	51.0	58.5	59.5	58.1	57.0	61.2	62.6	57.6	58.5	59.5	58.3	50	1.09	0.82
MT 0336	53.9	59.3	59.0	59.2	58.7	62.8	64.1	60.9	57.9	57.8	59.3	35	1.09	0.98
MT 0405	52.8	59.3	58.9	59.7	59.3	62.2	63.7	63.6	58.3	58.4	59.6	31	1.16	0.88
MT 0412	55.4	61.0	59.1	61.2	59.2	63.3	64.1	61.9	59.8	58.7	60.4	14	0.95	0.94
MT 0413	54.7	61.3	59.6	60.9	61.0*	63.7	64.7	61.9	61.7	59.7	60.9	7	1.02	0.93
MT 0414	54.3	60.0	59.9	59.9	60.2*	62.6	63.9	61.2	60.1	60.1	60.2	23	0.95	0.96
MT 0415	54.2	60.3	60.5	60.1	60.0*	62.6	63.8	60.8	61.2	60.4	60.4	15	0.92	0.89
MT 0416	54.1	59.1	60.5	60.5	59.8*	63.2	63.7	62.6	59.5	59.5	60.3	20	1.02	0.93
MT 0421	52.5	56.9	57.2	58.2	57.7	61.3	62.6	58.6	55.9	54.6	57.6	60	1.11	0.93
MT 0502	52.0	57.0	58.0	57.4	58.0	60.6	62.8	60.1	55.3	54.4	57.6	61	1.17	0.90
MT 0508	53.4	59.3	59.0	59.3	58.3	62.4	64.0	60.0	57.9	55.9	59.0	41	1.14	0.96
MT 0509	52.3	58.2	57.2	59.0	59.3	62.1	63.6	58.7	56.8	52.9	58.0	56	1.24	0.82
MT 0515	54.4	60.7	61.4	60.3	61.0*	62.9	64.3	61.7	60.4	60.1	60.7	10	0.97	0.94
MT 0516	52.9	60.4	57.5	60.1	59.5*	62.8	64.2	62.3	60.7	60.4	60.1	25	1.13	0.85
MT 0517	56.0	59.9	60.5	60.9	60.3*	62.6	64.2	62.4	60.1	58.9	60.6	11	0.85	0.95
MT 0519	55.9	61.5	<u>61.9</u>	60.8	60.8*	63.0	64.1	61.6	61.1	60.7	61.1	5	0.80	0.93
MT 0523	52.5	58.1	59.2	58.4	59.7*	62.0	63.6	58.2	56.5	54.6	58.3	51	1.18	0.86
MT 0525	55.9	61.5	61.2	61.3	61.2*	63.8	64.6	61.9	60.5	59.1	61.1	6	0.92	0.97
MT 0534	52.8	58.1	60.3	57.4	57.8	61.5	62.8	57.6	55.8	54.6	57.9	57	1.07	0.81
MT 0535	55.4	60.7	61.3	61.5	60.7*	63.8	65.0	64.2	60.8	58.6	61.2	4	1.05	0.91
MT 0537	55.9	59.5	60.3	59.9	60.0*	62.8	63.2	61.1	61.0	58.9	60.3	21	0.78	0.94

(continued)

Table 2 (continued). 2006 test weight (lb/bu) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
MT 0539	53.1	58.5	59.6	59.6	57.8	62.0	62.9	59.7	57.4	56.0	58.7	44	1.07	0.93
MT 0540	53.5	59.1	57.2	58.8	58.2	61.8	64.0	60.8	58.6	59.9	59.2	37	1.03	0.89
MT 0544	53.0	58.5	57.3	57.7	57.8	61.4	62.5	57.7	57.9	58.8	58.2	53	0.93	0.89
MT 0550	55.6	60.3	58.3	60.9	60.2*	63.0	63.9	63.0	60.5	58.4	60.4	16	0.92	0.87
MT 0551	52.7	57.6	56.5	58.5	59.0	62.4	63.9	60.1	58.2	56.7	58.6	46	1.19	0.94
MT 0553	53.4	57.3	61.0	60.0	58.3	61.8	63.5	59.6	57.4	54.4	58.7	45	1.10	0.79
MT 0562	52.8	58.2	58.2	58.6	57.2	62.0	63.2	58.6	56.7	56.6	58.2	54	1.10	0.96
MT 0563	52.8	57.9	59.1	58.6	57.8	61.2	62.1	58.2	57.4	56.5	58.2	55	0.97	0.95
MT 0564	54.0	59.5	60.9	59.4	58.2	62.6	63.6	59.2	58.0	56.2	59.2	38	1.04	0.88
MT 0566	53.3	58.1	60.6	59.2	57.8	61.9	63.5	57.3	56.8	57.4	58.6	47	1.02	0.83
MT 0567	52.5	57.7	58.6	57.3	56.7	59.9	63.1	58.8	57.4	56.5	57.8	59	1.03	0.95
MT 0570	53.4	58.8	58.3	58.5	57.3	61.1	63.3	61.5	57.1	56.2	58.6	48	1.07	0.91
MT 0575	51.6	58.4	57.6	58.7	59.8*	61.6	63.8	59.4	56.7	57.9	58.5	49	1.21	0.93
MTHW0202	55.2	61.1	60.0	60.1	58.0	63.5	64.6	62.5	60.3	61.0	60.6	12	0.97	0.86
MTHW0471	56.9	60.0	58.8	59.2	60.5*	63.4	65.1	59.7	60.4	60.5	60.4	17	0.80	0.79
Glenn	56.9	<u>63.3</u>	59.6	<u>62.5</u>	<u>61.5</u>	<u>64.6</u>	<u>65.8</u>	63.8	<u>62.3</u>	<u>62.6</u>	<u>62.3</u>	2	0.92	0.82
Reeder	53.9	60.0	59.6	59.7	60.8*	62.6	64.1	60.8	60.5	60.1	60.4	18	0.95	0.82
McNeal	51.9	58.9	57.8	57.3	57.3	61.1	63.5	58.4	56.2	56.2	57.9	58	1.17	0.95
Ernest	54.1	58.7	59.3	59.5	59.0	62.7	63.4	61.4	60.1	57.5	59.6	32	1.00	0.94
Scholar	55.2	59.8	59.3	59.5	58.0	62.6	63.7	59.8	60.1	61.3	59.9	29	0.82	0.80
Explorer	54.7	59.0	59.3	60.2	57.0	62.1	63.5	60.1	57.8	58.2	59.2	39	0.93	0.91
Outlook	52.0	56.9	56.0	57.6	58.3	61.3	62.6	58.6	56.4	54.2	57.4	63	1.16	0.91
Choteau	53.7	59.6	60.4	59.6	58.2	62.1	63.9	61.6	58.7	57.9	59.6	33	1.06	0.95
Vida	53.1	58.3	58.3	59.1	58.8	62.8	63.4	60.6	57.5	57.5	58.9	43	1.13	0.98
site mean	54.05	59.35	59.18	59.52	58.97	62.37	63.74	60.42	58.85	58.19	59.5		1.00	1.00
CV (S/mean)	1.17	1 rep	2 rep	0.71	2.08	0.56	0.31	1 rep	1 rep	1 rep	1.68			
LSD (.05)	1.10			0.72	1.99	0.58	0.34				0.88			

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. 2006 protein content (percent) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
ACS52610	17.0	13.8	11.7	12.5	13.7	12.2	13.5	14.4	15.2	14.2	13.8	57	0.79	0.62
Norpro	17.5	13.2	12.8	13.5	12.9	12.7	13.2	17.5	15.9	<u>15.5</u>	14.5*	12	1.11	0.78
Knudson	17.6	12.9	14.0	13.5	13.1	13.5	12.3	14.7	14.5	13.3	13.9	54	0.88	0.87
Freyr	16.9	13.2	12.7	13.0	13.3	13.2	11.9	16.2	14.3	13.8	13.8	58	0.99	0.96
Kelby	17.2	13.4	14.3	<u>14.9</u>	14.4	14.8	12.6	15.8	15.5	14.2	14.7*	3	0.73	0.79
Agripro7	16.8	13.4	12.7	12.0	13.2	12.1	11.9	15.8	13.8	13.8	13.5	63	1.00	0.92
BW781	17.6	14.1	13.8	13.5	13.9	14.5	11.9	17.4	14.9	15.0	14.7*	4	1.07	0.92
BZ902413	17.6	13.2	14.1	13.8	12.7	13.5	11.6	16.0	14.3	14.1	14.1	39	1.05	0.94
Hank	17.7	14.2	13.6	12.8	14.4	12.8	12.1	15.5	14.7	14.8	14.3	23	0.99	0.91
Conan	18.0	13.8	14.0	13.8	13.7	13.8	12.3	15.1	14.9	14.8	14.4	15	0.93	0.93
Corbin	18.3	13.1	14.5	14.0	13.2	13.1	10.7	17.2	14.9	14.7	14.4	16	1.34	0.92
Agawam	16.0	13.6	12.8	12.4	12.5	12.4	11.5	14.3	13.3	13.1	13.2	64	0.77	0.94
BZ999592	18.3	14.4	13.2	13.4	13.8	12.7	11.9	16.1	14.9	14.7	14.3	24	1.15	0.96
BZ9M1024	17.6	13.9	13.5	12.9	12.8	12.7	12.3	15.6	14.4	14.0	14.0	46	1.02	0.96
BZ9M1044	17.5	14.1	14.2	12.9	13.6	13.0	12.3	15.5	14.6	14.1	14.2	33	0.93	0.95
Thatcher	<u>18.7</u>	13.9	14.8	14.3	14.7	12.7	11.8	15.4	15.3	15.0	14.7*	5	1.08	0.85
Fortuna	16.5	13.6	14.1	13.2	13.9	13.5	11.9	16.8	14.3	13.5	14.1	40	0.88	0.86
MT 0249	17.4	13.7	<u>15.7</u>	13.1	13.6	13.6	12.6	16.4	15.1	15.0	14.6*	8	0.90	0.82
MT 0260	17.2	13.4	12.8	12.5	13.0	12.3	12.1	15.4	14.2	13.8	13.7	60	1.00	0.97
MT 0266	17.5	13.6	13.4	13.9	13.5	14.5	11.5	17.4	14.8	14.7	14.5*	13	1.10	0.88
MT 0336	17.7	14.5	14.2	12.7	12.7	12.8	13.1	15.4	14.2	14.2	14.2	34	0.91	0.83
MT 0405	17.8	13.3	13.6	13.8	12.7	14.6	12.1	13.9	14.7	14.4	14.1	41	0.84	0.72
MT 0412	16.8	14.1	13.3	13.1	13.7	13.6	11.7	15.0	14.6	14.2	14.0	47	0.84	0.94
MT 0413	17.5	<u>14.9</u>	13.1	13.1	12.9	12.4	13.3	15.4	14.2	14.1	14.1	42	0.87	0.78
MT 0414	18.1	13.6	13.8	13.5	13.8	14.1	12.6	17.4	15.1	15.1	14.7*	6	1.11	0.95
MT 0415	18.0	14.2	14.2	14.0	<u>15.0</u>	14.8	12.1	17.5	15.4	15.2	<u>15.0</u>	1	1.05	0.91
MT 0416	17.0	13.8	11.8	12.7	14.3	13.0	11.0	15.7	13.7	13.4	13.6	62	1.03	0.84
MT 0421	18.2	13.7	13.4	12.9	14.0	13.7	13.0	15.9	14.7	13.8	14.3	25	1.00	0.92
MT 0502	18.5	13.9	13.7	13.6	14.1	13.0	12.8	15.9	14.5	14.1	14.4	17	1.04	0.94
MT 0508	17.6	13.5	13.9	12.9	13.9	13.2	11.7	15.5	14.4	13.7	14.0	48	1.00	0.96
MT 0509	17.8	13.7	15.7	12.1	13.7	13.0	11.8	15.1	14.1	14.1	14.1	43	0.98	0.74
MT 0515	17.6	12.8	11.5	12.7	12.6	13.6	11.8	16.0	14.4	14.1	13.7	61	1.14	0.88
MT 0516	17.4	13.7	13.0	13.9	13.1	13.9	11.7	15.9	15.0	14.9	14.2	35	0.99	0.92
MT 0517	17.5	14.6	12.9	13.7	13.3	13.9	11.6	15.7	15.0	15.0	14.3	26	1.00	0.9
MT 0519	17.6	14.2	13.3	13.8	14.0	13.8	12.2	17.0	15.1	15.1	14.6*	9	1.03	0.95
MT 0523	17.8	13.9	13.7	13.6	13.1	13.6	12.0	14.8	15.2	14.3	14.2	36	0.95	0.91
MT 0525	16.8	14.1	12.3	13.5	13.1	13.7	12.2	15.8	14.6	14.2	14.0	49	0.87	0.88
MT 0534	17.1	14.6	12.7	13.1	12.9	12.9	12.7	15.9	14.2	13.7	14.0	50	0.90	0.87
MT 0535	17.7	13.1	13.3	14.2	13.6	<u>14.9</u>	12.5	14.6	14.8	14.3	14.3	27	0.79	0.74
MT 0537	17.3	14.1	15.0	13.8	12.3	13.7	11.8	16.8	14.7	14.3	14.4	18	1.01	0.83

(continued)

Table 3 (continued). 2006 protein content (percent) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
MT 0539	17.6	13.9	13.2	13.3	13.8	13.0	11.3	16.8	14.6	14.1	14.2	37	1.15	0.96
MT 0540	17.9	12.9	15.0	14.0	14.5	13.1	11.2	16.2	14.9	14.4	14.4	19	1.09	0.85
MT 0544	17.6	13.4	14.1	13.4	12.4	12.8	12.1	14.6	14.3	14.1	13.9	55	0.93	0.88
MT 0550	16.8	14.4	12.9	13.6	13.2	14.1	11.7	14.7	13.7	13.0	13.8	59	0.77	0.77
MT 0551	17.4	14.4	13.1	13.8	13.1	13.8	12.2	16.3	14.5	14.3	14.3	28	0.96	0.94
MT 0553	17.4	14.0	12.2	13.1	12.9	14.1	11.5	16.1	<u>15.8</u>	14.9	14.2	38	1.10	0.84
MT 0562	17.7	14.1	13.9	13.3	13.8	13.7	12.7	16.4	15.1	13.7	14.4	20	0.97	0.96
MT 0563	17.9	14.5	14.7	13.1	13.8	13.6	11.7	16.2	14.5	14.1	14.4	21	1.04	0.93
MT 0564	18.0	13.6	13.4	13.8	13.8	13.1	12.5	15.9	14.9	14.2	14.3	29	1.01	0.97
MT 0566	17.2	12.7	11.3	13.0	14.0	12.9	12.4	16.8	14.9	14.0	13.9	56	1.08	0.78
MT 0567	17.6	14.1	12.7	13.3	13.2	12.6	11.9	16.5	14.2	14.2	14.0	51	1.11	0.94
MT 0570	17.7	14.4	13.6	12.8	13.5	12.9	<u>14.2</u>	15.4	14.7	13.8	14.3	30	0.79	0.73
MT 0575	17.8	14.3	12.0	12.7	13.7	13.5	11.7	15.5	14.9	13.6	14.0	52	1.09	0.88
MTHW0202	17.2	13.1	14.7	13.1	13.7	12.8	12.1	15.4	14.6	14.1	14.1	44	0.90	0.89
MTHW0471	18.2	13.7	17.0	13.7	13.5	12.7	12.0	17.2	14.8	14.0	14.7*	7	1.12	0.7
Glenn	17.4	12.9	13.6	13.7	13.5	14.1	11.3	16.9	14.8	14.4	14.3	31	1.10	0.91
Reeder	17.2	13.9	14.6	13.9	14.0	14.4	12.1	16.4	15.1	14.4	14.6*	10	0.87	0.92
McNeal	18.0	13.1	14.4	13.7	13.3	13.1	12.1	16.4	14.5	14.0	14.3	32	1.10	0.95
Ernest	18.7	13.4	14.0	14.0	14.3	13.2	12.4	16.3	14.9	14.8	14.6*	11	1.12	0.95
Scholar	18.5	13.5	14.1	14.0	13.8	13.2	12.8	<u>18.2</u>	15.5	15.1	14.9*	2	1.24	0.92
Explorer	17.6	13.8	14.3	13.1	13.5	13.6	12.9	16.2	15.1	15.0	14.5*	14	0.93	0.94
Outlook	18.4	13.9	15.3	12.9	13.1	12.6	10.7	15.0	14.0	13.7	14.0	53	1.18	0.82
Choteau	17.8	13.7	12.8	14.1	13.6	14.2	11.7	16.0	15.5	15.0	14.4	22	1.05	0.9
Vida	17.9	13.9	13.5	13.0	13.6	12.7	11.0	16.4	14.6	14.2	14.1	45	1.22	0.97
site mean	17.59	13.76	13.62	13.36	13.50	13.37	12.09	15.96	14.70	14.27	14.20		1.00	1.00
CV (S/mean)	1 REP	1 REP	1 REP	1 REP	1 REP	1 REP	1 REP	1 REP	1 REP	1 REP	4.28			
LSD (.05)											0.53			

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. 2006 heading date (days from January 1) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
ACS52610	168.6	178.0	172.2	167.6	172.3	161.0	159.3	181.0	178.0	177.0	171.5	61	0.98	0.99
Norpro	165.3	176.0	170.4	166.0	169.3	159.0	159.7	179.0	176.0	176.0	169.7	41	0.94	0.99
Knudson	166.0	178.0	172.8	165.3	168.7	159.3	158.3	179.0	176.0	177.0	170.0	45	1.01	0.98
Freyr	165.4	175.0	171.2	165.3	168.7	157.0	156.3	178.0	175.0	174.0	168.6	25	1.00	0.99
Kelby	164.0	174.0	168.9	163.4	168.0	158.7	156.3	177.0	173.0	172.0	167.5	10	0.90	0.99
Agripro7	166.4	176.0	170.7	165.0	168.7	158.7	158.3	179.0	174.0	174.0	169.1	32	0.94	1.00
BW781	163.9	173.0	169.7	163.2	166.0*	156.0	154.7	177.0	173.0	172.0	166.8	7	0.99	0.99
BZ902413	165.0	175.0	169.2	163.8	168.3	157.0	154.7	177.0	173.0	173.0	167.6	15	1.00	1.00
Hank	164.1	175.0	170.7	163.1	166.3*	159.3	157.7	178.0	174.0	174.0	168.2	20	0.93	0.97
Conan	166.5	175.0	171.0	165.7	170.0	159.0	157.3	179.0	175.0	176.0	169.4	39	0.97	0.99
Corbin	164.2	175.0	170.9	163.9	167.3	156.7	156.0	178.0	174.0	173.0	167.9	17	1.01	0.99
Agawam	<u>160.4</u>	172.0	<u>167.0</u>	<u>161.3</u>	<u>165.7</u>	158.3	155.7	175.0*	172.0	172.0	165.9*	2	0.88	0.96
BZ999592	167.7	178.0	173.2	167.7	171.7	159.0	159.0	180.0	177.0	177.0	171.0	54	1.01	1.00
BZ9M1024	166.3	175.0	170.3	165.2	169.3	158.7	158.3	178.0	175.0	176.0	169.2	34	0.94	1.00
BZ9M1044	164.2	177.0	169.6	162.7	167.0	161.0	158.3	178.0	173.0	173.0	168.4	22	0.88	0.94
Thatcher	167.9	180.0	175.8	169.5	172.7	157.0	158.3	184.0	179.0	179.0	172.3	62	1.21	0.99
Fortuna	165.1	176.0	171.1	165.3	170.0	155.7	156.0	180.0	176.0	176.0	169.1	31	1.13	1.00
MT 0249	164.9	176.0	172.3	164.3	168.7	158.0	158.3	178.0	174.0	174.0	168.9	27	0.95	0.99
MT 0260	167.9	178.0	174.1	169.4	172.3	161.0	158.3	180.0	178.0	177.0	171.6	59	0.98	0.98
MT 0266	163.8	175.0	168.6	163.6	167.7	156.0	155.3	178.0	175.0	172.0	167.5	13	1.04	0.99
MT 0336	166.4	177.0	172.2	166.6	170.3	158.0	160.0	178.0	176.0	176.0	170.1	49	0.95	0.99
MT 0405	165.3	176.0	169.7	164.3	169.3	159.0	155.7	177.0	174.0	174.0	168.4	23	0.96	0.99
MT 0412	163.3	171.0	167.2	162.8	166.0*	156.7	155.0	176.0	<u>171.0</u>	171.0	166.0*	3	0.88	0.98
MT 0413	164.3	175.0	170.3	163.4	166.7*	156.7	155.0	177.0	173.0	174.0	167.5	12	1.02	1.00
MT 0414	164.8	176.0	171.8	165.7	169.0	157.3	157.7	178.0	177.0	176.0	169.3	37	1.03	0.99
MT 0415	165.2	177.0	172.0	166.0	168.7	158.3	156.3	178.0	177.0	176.0	169.4	38	1.05	0.99
MT 0416	166.4	177.0	171.9	166.6	169.3	158.0	157.0	178.0	175.0	174.0	169.3	36	0.98	0.99
MT 0421	166.3	176.0	171.8	166.3	170.0	157.7	160.0	180.0	176.0	176.0	170.0	47	0.98	0.99
MT 0502	169.1	179.0	175.5	168.7	171.7	160.0	161.3	183.0	178.0	178.0	172.4	63	1.02	1.00
MT 0508	164.9	175.0	171.6	164.5	167.7	157.3	159.3	179.0	175.0	175.0	168.9	29	0.97	0.98
MT 0509	165.2	177.0	172.9	166.6	170.3	158.0	157.0	179.0	177.0	177.0	170.0	46	1.07	0.99
MT 0515	168.0	178.0	172.7	167.9	171.3	158.0	157.3	179.0	177.0	176.0	170.5	51	1.04	0.99
MT 0516	164.8	175.0	169.1	163.6	167.0	157.3	154.7	177.0	174.0	173.0	167.5	14	1.00	0.99
MT 0517	163.1	175.0	170.9	164.5	167.7	158.0	155.3	177.0	175.0	174.0	168.0	18	1.01	0.99
MT 0519	164.7	175.0	171.0	164.4	167.7	157.0	155.7	178.0	175.0	173.0	168.1	19	1.02	1.00
MT 0523	164.9	177.0	171.7	164.7	168.7	156.0	157.0	179.0	177.0	176.0	169.2	35	1.11	0.99
MT 0525	164.3	174.0	169.3	163.3	168.0	157.0	153.7	177.0	174.0	173.0	167.4	9	1.03	0.99
MT 0534	166.3	178.0	173.5	168.6	171.7	158.3	159.7	179.0	177.0	177.0	170.9	53	0.99	0.98
MT 0535	165.2	177.0	170.5	166.2	169.7	157.7	157.0	178.0	175.0	176.0	169.2	33	1.02	1.00
MT 0537	164.6	176.0	170.5	166.2	169.3	154.7	154.7	178.0	175.0	176.0	168.5	26	1.13	0.99

(continued)

Table 4 (continued). 2005 heading date (days from January 1) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
MT 0539	166.2	176.0	172.0	164.9	169.0	159.0	157.7	179.0	176.0	176.0	169.6	40	1.00	1.00
MT 0540	165.2	173.0	169.8	163.2	167.3	159.0	157.7	177.0	175.0	175.0	168.2	21	0.91	0.98
MT 0544	165.4	176.0	170.3	164.2	168.7	157.0	158.0	178.0	174.0	173.0	168.5	24	0.96	0.99
MT 0550	162.8	174.0	168.7	162.6*	166.3*	156.0	153.0*	176.0	173.0	172.0	166.4*	4	1.03	0.99
MT 0551	169.4	178.0	173.6	167.9	172.0	159.0	159.0	179.0	178.0	177.0	171.3	57	0.99	0.98
MT 0553	167.4	178.0	174.7	166.9	170.3	159.3	158.7	179.0	177.0	177.0	170.8	52	1.00	0.99
MT 0562	169.2	179.0	173.0	168.0	170.3	158.7	159.0	180.0	177.0	177.0	171.2	55	1.02	0.99
MT 0563	167.3	175.0	172.9	165.6	169.3	158.7	159.0	179.0	177.0	176.0	170.0	48	0.96	0.98
MT 0564	165.0	175.0	171.1	163.6	168.3	158.0	158.7	178.0	176.0	176.0	168.9	30	0.98	0.99
MT 0566	161.9*	175.0	169.3	163.6	168.3	158.3	157.0	179.0	174.0	172.0	167.8	16	0.97	0.96
MT 0567	166.6	177.0	172.2	165.7	171.0	157.7	157.0	179.0	176.0	176.0	169.9	44	1.05	1.00
MT 0570	164.1	175.0	169.7	162.7*	167.3	<u>153.3</u>	153.3*	176.0	173.0	172.0	166.6*	5	1.09	0.99
MT 0575	164.1	174.0	168.1	163.4	167.7	158.3	155.7	177.0	174.0	173.0	167.5	11	0.95	0.99
MTHW0202	161.4*	<u>171.0</u>	166.3	161.4*	166.0*	156.7	157.0	<u>174.0</u>	173.0	<u>170.0</u>	<u>165.6</u>	1	0.83	0.96
MTHW0471	168.4	179.0	174.5	168.8	171.3	157.0	159.0	182.0	178.0	178.0	171.6	60	1.12	0.99
Glenn	162.2*	176.0	168.3	163.4	167.3	154.0*	<u>152.7</u>	177.0	176.0	173.0	167.0	8	1.18	0.99
Reeder	166.2	176.0	171.4	165.1	169.3	157.3	156.7	178.0	173.0	176.0	168.9	28	1.00	0.99
McNeal	169.5	178.0	173.6	168.1	171.0	158.7	159.7	180.0	177.0	177.0	171.3	58	0.99	0.99
Ernest	167.3	177.0	171.7	166.6	170.3	156.3	157.0	179.0	176.0	176.0	169.7	42	1.06	0.99
Scholar	169.9	179.0	173.7	168.1	172.0	157.3	158.3	181.0	177.0	177.0	171.3	56	1.08	0.98
Explorer	162.5*	174.0	167.8*	161.9*	166.7*	158.0	155.7	177.0	172.0	172.0	166.8	6	0.90	0.79
Outlook	169.8	179.0	175.4	169.4	172.0	160.3	162.7	181.0	178.0	178.0	172.6	64	0.93	0.99
Choteau	166.3	177.0	171.9	166.2	170.3	158.0	158.3	179.0	176.0	176.0	169.9	43	1.01	1.00
Vida	166.9	178.0	173.3	166.2	170.0	158.0	158.3	180.0	177.0	176.0	170.4	50	1.05	0.99
site mean	165.62	176.05	171.22	165.31	169.08	157.83	157.26	178.47	175.33	174.94	169.1		1.00	
CV (S/mean)	0.78	1 rep	0.35	0.49	0.41	0.51	0.54	0.36	1 rep	1 rep	0.65			
LSD (.05)	2.19		1.04	1.37	1.11	1.31	1.36	1.04			0.96			

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. 2006 plant height (inches) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
ACS52610	24.5	31.0	31.8	27.2	28.7	31.1	35.1	34.5	30.2	30.3	30.4	57	0.76	0.98
Norpro	24.6	29.0	33.4	27.7	27.5	30.1	36.2	35.7	29.3	29.6	30.3	59	0.87	0.94
Knudson	24.9	31.0	33.4	28.2	28.4	30.9	35.7	37.9	32.1	32.0	31.4	46	0.87	0.91
Freyr	26.5	35.0	37.1	30.6	31.2	33.7	40.2	37.9	34.2	33.8	34.0	14	0.94	0.97
Kelby	22.6	30.0	33.4	26.9	26.0	27.7	32.7	34.6	27.7	27.8	28.9	63	0.85	0.89
Agripro7	24.3	30.0	31.8	28.1	28.1	29.5	36.3	34.1	28.8	28.9	30.0	62	0.80	0.97
BW781	26.1	36.0	37.6	29.8	29.5	33.4	40.9*	38.2	33.7	33.7	33.9	15	1.06	0.94
BZ902413	24.6	32.0	34.4	30.4	29.8	31.6	37.0	36.7	29.6	30.6	31.7	42	0.87	0.95
Hank	23.8	33.0	33.1	27.6	27.5	30.7	35.8	37.5	29.2	29.4	30.7	55	0.98	0.95
Conan	21.7	33.0	32.8	27.0	29.1	29.3	35.0	35.7	29.9	29.7	30.3	60	0.96	0.93
Corbin	23.2	33.0	34.5	29.5	28.7	32.3	39.2	35.7	31.4	31.5	31.9	39	1.03	0.96
Agawam	24.6	31.0	32.8	27.3	26.6	30.3	35.6	34.9	29.0	29.0	30.1	61	0.85	0.96
BZ999592	24.0	33.0	35.9	30.3	32.5	31.6	39.8	38.2	32.0	32.3	32.9	27	1.04	0.95
BZ9M1024	24.7	32.0	34.2	27.8	28.4	29.9	36.0	36.5	30.0	31.3	31.1	51	0.88	0.95
BZ9M1044	19.5	28.0	29.4	24.2	25.3	27.7	32.2	31.0	26.5	27.1	27.1	64	0.86	0.97
Thatcher	<u>31.3</u>	<u>43.0</u>	<u>43.8</u>	<u>38.8</u>	<u>39.6</u>	<u>43.0</u>	<u>50.5</u>	<u>47.5</u>	<u>44.0</u>	<u>43.5</u>	<u>42.5</u>	1	1.21	0.93
Fortuna	27.9*	42.0	39.8	34.2	35.4	38.9	45.6*	46.3*	38.2	38.0	38.6	2	1.29	0.95
MT 0249	25.2	32.0	33.9	28.4	29.0	30.8	37.7	35.3	30.6	30.6	31.4	47	0.86	0.98
MT 0260	26.7	34.0	34.5	32.1	31.6	34.4	41.5*	41.1	34.2	34.4	34.5	12	1.02	0.95
MT 0266	25.2	34.0	34.9	29.5	29.1	33.8	39.3	38.2	31.8	33.1	32.9	28	1.01	0.97
MT 0336	25.3	35.0	35.0	30.1	32.1	32.9	39.2	39.1	31.0	31.6	33.1	22	0.99	0.95
MT 0405	27.4*	31.0	33.6	30.6	29.3	32.8	37.3	35.3	32.0	30.8	32.0	38	0.67	0.92
MT 0412	24.0	32.0	32.2	28.7	27.9	31.1	36.8	36.7	30.2	30.2	31.0	52	0.93	0.99
MT 0413	26.7	32.0	34.4	30.0	29.8	32.4	38.8	39.8	31.3	32.6	32.8	29	0.94	0.94
MT 0414	25.3	36.0	38.5	31.5	32.4	31.1	42.4*	39.6	35.6	34.0	34.6	9	1.14	0.91
MT 0415	26.7	36.0	37.2	29.0	32.7	32.7	42.7*	40.2	34.4	34.3	34.6	10	1.12	0.94
MT 0416	24.0	33.0	34.6	28.3	29.7	33.3	38.2	37.4	32.5	30.7	32.2	37	1.01	0.97
MT 0421	24.1	32.0	32.9	28.2	29.9	29.6	38.2	36.6	30.3	30.6	31.2	50	0.97	0.97
MT 0502	25.9	34.0	36.2	32.7	32.1	34.0	42.1*	40.7	34.1	34.6	34.6	11	1.08	0.97
MT 0508	25.1	35.0	35.6	29.9	27.8	33.6	39.5	38.7	30.9	30.2	32.6	32	1.10	0.94
MT 0509	24.1	32.0	34.7	27.4	28.2	31.0	36.8	36.1	29.7	28.9	30.9	54	0.96	0.95
MT 0515	24.2	34.0	33.0	29.9	30.1	33.6	40.3	38.7	32.3	31.2	32.7	31	1.08	0.97
MT 0516	26.4	34.0	34.8	29.9	30.4	31.5	39.9	38.7	32.0	32.4	33.0	25	0.97	0.98
MT 0517	25.2	33.0	33.2	28.2	29.1	31.6	37.4	36.0	31.0	31.4	31.6	44	0.87	0.99
MT 0519	27.7*	34.0	34.4	30.8	29.6	33.3	43.2*	41.5	33.4	34.0	34.2	13	1.12	0.91
MT 0523	25.1	34.0	36.7	32.8	28.8	35.5	41.7*	36.9	33.9	33.1	33.8	16	1.03	0.87
MT 0525	25.0	36.0	36.4	31.1	30.1	33.7	41.1*	38.5	32.9	33.5	33.8	17	1.09	0.97
MT 0534	24.0	34.0	33.6	30.4	30.7	32.9	39.9	38.6	30.4	31.6	32.6	33	1.07	0.97
MT 0535	24.2	31.0	33.5	28.7	31.2	33.8	40.2	39.5	32.0	32.3	32.6	34	1.10	0.93
MT 0537	24.7	37.0	37.1	32.8	33.3	36.5	46.9*	44.6	35.5	35.5	36.4	6	1.48	0.98

(continued)

Table 5 (continued). 2006 plant height (inches) summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Havre, dry	Moccasin, dry	Conrad, dry	Sidney, dry	Sidney, irr	Huntley, dry	Huntley, irr	Kalispell, high-rainfall	Bozeman, dry	Bozeman, irr	ave	rank	BYX	RSQ
MT 0539	24.0	32.0	34.6	27.9	28.6	32.2	37.2	36.1	29.9	30.8	31.3	49	0.96	0.97
MT 0540	23.9	32.0	35.6	31.2	28.6	32.8	39.9	38.6	30.9	31.5	32.5	35	1.11	0.96
MT 0544	25.8	34.0	34.2	29.2	29.3	34.3	40.2	36.6	30.0	31.1	32.5	36	0.98	0.92
MT 0550	25.8	34.0	35.0	31.1	30.1	33.5	40.3	38.7	34.0	32.4	33.5	18	0.99	0.98
MT 0551	25.9	33.0	33.4	29.3	30.7	32.4	38.0	38.5	33.3	33.4	32.8	30	0.88	0.95
MT 0553	24.9	32.0	30.6	28.6	30.0	29.8	36.7	36.2	30.6	30.2	31.0	53	0.81	0.93
MT 0562	24.4	35.0	35.3	31.0	31.2	33.4	38.7	37.0	31.5	32.2	33.0	26	0.94	0.95
MT 0563	22.5	33.0	34.2	29.2	29.3	31.6	38.2	36.0	29.9	30.6	31.4	48	1.03	0.97
MT 0564	24.6	32.0	33.4	30.1	29.4	32.3	38.3	37.0	30.4	30.3	31.8	40	0.93	0.97
MT 0566	24.5	32.0	32.7	27.8	28.9	30.2	35.6	36.9	28.8	27.8	30.5	56	0.89	0.92
MT 0567	28.1*	33.0	32.4	30.7	32.0	31.7	39.6	39.4	33.1	32.3	33.2	19	0.81	0.86
MT 0570	25.3	36.0	37.0	30.6	31.4	34.7	43.5*	44.4	35.0	35.2	35.3	8	1.36	0.97
MT 0575	18.9	33.0	35.3	28.9	30.2	31.5	38.6	38.2	31.3	31.7	31.8	41	1.30	0.93
MTHW0202	25.3	32.0	34.1	29.4	28.7	31.7	38.2	36.2	30.4	30.9	31.7	43	0.90	0.98
MTHW0471	27.9*	39.0	38.4	32.7	34.0	37.5	43.9*	41.6	38.1	37.3	37.0	5	1.07	0.95
Glenn	26.9	39.0	37.9	32.4	32.2	35.3	43.7*	39.5	35.9	35.1	35.8	7	1.09	0.93
Reeder	25.4	35.0	33.8	28.2	30.2	31.3	41.3	39.1	33.7	32.9	33.1	23	1.12	0.94
McNeal	24.2	33.0	36.0	30.6	30.5	34.7	40.2	39.9	31.5	31.4	33.2	20	1.14	0.97
Ernest	28.5*	39.0	39.0	35.2	36.3	39.0	44.6*	44.9	39.4	37.4	38.3	3	1.10	0.94
Scholar	26.3	38.0	38.1	34.5	36.0	36.6	45.7	42.8	37.4	37.7	37.3	4	1.20	0.94
Explorer	26.3	30.0	33.5	29.2	26.2	31.1	36.8	38.2	23.0	29.5	30.4	58	0.93	0.65
Outlook	26.1	34.0	33.6	30.0	30.8	32.9	40.5	38.2	32.2	32.9	33.1	24	0.96	0.97
Choteau	26.0	33.0	34.6	28.7	28.8	31.3	36.3	36.6	30.6	29.9	31.6	45	0.82	0.94
Vida	26.9	34.0	34.7	30.2	30.7	32.6	39.8	38.2	33.1	32.1	33.2	21	0.91	0.99
site mean	25.14	33.66	34.79	29.88	30.17	32.68	39.38	38.27	32.06	32.13	32.8		1.00	1.00
CV (S/mean)	9.43	1 rep	4.06	4.93	4.24	4.51	4.71	3.69	5.12	3.25	3.59			
LSD (.05)	4.05		2.41	2.39	2.20	2.38	9.72	2.29	2.76	1.79	1.03			

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

Table 6. 2006 over-all summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Grain yield (bu/ac)		Test weight (lb/bu)		Heading date (178= June 27)		Plant height (in)		Grain protein (%)	
	AVE	RANK	AVE	RANK	AVE	RANK	AVE	RANK	AVE	RANK
ACS52610	59.6*	11	60.8	8	171.5	61	30.4	57	13.8	57
Norpro	55.1	39	58.2	52	169.7	41	30.3	59	14.5*	12
Knudson	55.3	38	59.7	30	170.0	45	31.4	46	13.9	54
Freyr	57.7*	24	60.7	9	168.6	25	34.0	14	13.8	58
Kelby	52.7	52	61.2	3	167.5	10	28.9	63	14.7*	3
Agripro7	57.6*	25	59.9	26	169.1	32	30.0	62	13.5	63
BW781	57.2	28	59.0	40	166.8	7	33.9	15	14.7*	4
BZ902413	55.6	37	60.3	19	167.6	15	31.7	42	14.1	39
Hank	58.5*	17	57.5	62	168.2	20	30.7	55	14.3	23
Conan	52.3	54	59.5	34	169.4	39	30.3	60	14.4	15
Corbin	56.0	35	59.9	27	167.9	17	31.9	39	14.4	16
Agawam	61.3*	7	62.2*	2	165.9*	2	30.1	61	13.2	64
BZ999592	57.5	27	58.9	42	171.0	54	32.9	27	14.3	24
BZ9M1024	58.3*	20	59.9	28	169.2	34	31.1	51	14.0	46
BZ9M1044	58.5*	18	60.4	13	168.4	22	27.1	64	14.2	33
Thatcher	40.6	64	56.8	64	172.3	62	42.5	1	14.7*	5
Fortuna	48.1	63	60.2	22	169.1	31	38.6	2	14.1	40
MT 0249	63.5*	2	60.1	24	168.9	27	31.4	47	14.6*	8
MT 0260	61.3*	8	59.2	36	171.6	59	34.5	12	13.7	60
MT 0266	62.1*	5	58.3	50	167.5	13	32.9	28	14.5*	13
MT 0336	57.6*	26	59.3	35	170.1	49	33.1	22	14.2	34
MT 0405	59.4*	13	59.6	31	168.4	23	32.0	38	14.1	41
MT 0412	58.5*	19	60.4	14	166.0*	3	31.0	52	14.0	47
MT 0413	63*	4	60.9	7	167.5	12	32.8	29	14.1	42
MT 0414	60.6*	9	60.2	23	169.3	37	34.6	9	14.7*	6
MT 0415	60.3*	10	60.4	15	169.4	38	34.6	10	15.0	1
MT 0416	63.6	1	60.3	20	169.3	36	32.2	37	13.6	62
MT 0421	54.0	46	57.6	60	170.0	47	31.2	50	14.3	25
MT 0502	53.6	49	57.6	61	172.4	63	34.6	11	14.4	17
MT 0508	54.9	40	59.0	41	168.9	29	32.6	32	14.0	48
MT 0509	54.4	44	58.0	56	170.0	46	30.9	54	14.1	43
MT 0515	63.5*	3	60.7	10	170.5	51	32.7	31	13.7	61
MT 0516	62.1*	6	60.1	25	167.5	14	33.0	25	14.2	35
MT 0517	58.9*	14	60.6	11	168.0	18	31.6	44	14.3	26
MT 0519	57.8*	23	61.1	5	168.1	19	34.2	13	14.6*	9
MT 0523	53.1	51	58.3	51	169.2	35	33.8	16	14.2	36
MT 0525	56.5	33	61.1	6	167.4	9	33.8	17	14.0	49
MT 0534	54.0	47	57.9	57	170.9	53	32.6	33	14.0	50
MT 0535	55.8	36	61.2	4	169.2	33	32.6	34	14.3	27
MT 0537	52.3	55	60.3	21	168.5	26	36.4	6	14.4	18

(continued)

Table 6 (continued). 2006 over-all summary for the advanced spring wheat nursery grown across Montana.

Line or variety	Grain yield (bu/ac)		Test weight (lb/bu)		Heading date (178= June 27)		Plant height (in)		Grain protein (%)	
	AVE	RANK	AVE	RANK	AVE	RANK	AVE	RANK	AVE	RANK
MT 0539	57.9*	21	58.7	44	169.6	40	31.3	49	14.2	37
MT 0540	56.6	32	59.2	37	168.2	21	32.5	35	14.4	19
MT 0544	56.7	31	58.2	53	168.5	24	32.5	36	13.9	55
MT 0550	54.2	45	60.4	16	166.4*	4	33.5	18	13.8	59
MT 0551	50.4	61	58.6	46	171.3	57	32.8	30	14.3	28
MT 0553	51.7	58	58.7	45	170.8	52	31.0	53	14.2	38
MT 0562	54.7	41	58.2	54	171.2	55	33.0	26	14.4	20
MT 0563	51.7	59	58.2	55	170.0	48	31.4	48	14.4	21
MT 0564	52.3	56	59.2	38	168.9	30	31.8	40	14.3	29
MT 0566	56.4	34	58.6	47	167.8	16	30.5	56	13.9	56
MT 0567	54.5	42	57.8	59	169.9	44	33.2	19	14.0	51
MT 0570	54.5	43	58.6	48	166.6*	5	35.3	8	14.3	30
MT 0575	57.2	29	58.5	49	167.5	11	31.8	41	14.0	52
MTHW0202	57.9*	22	60.6	12	<u>165.6</u>	1	31.7	43	14.1	44
MTHW0471	52.1	57	60.4	17	171.6	60	37.0	5	14.7*	7
Glenn	52.5	53	<u>62.3</u>	2	167.0	8	35.8	7	14.3	31
Reeder	59.5*	12	60.4	18	168.9	28	33.1	23	14.6*	10
McNeal	51.3	60	57.9	58	171.3	58	33.2	20	14.3	32
Ernest	50.4	62	59.6	32	169.7	42	38.3	3	14.6*	11
Scholar	53.3	50	59.9	29	171.3	56	37.3	4	14.9*	2
Explorer	53.9	48	59.2	39	166.8	6	30.4	58	14.5*	14
Outlook	57.1	30	57.4	63	172.6	64	33.1	24	14.0	53
Choteau	58.7*	16	59.6	33	169.9	43	31.6	45	14.4	22
Vida	58.8*	15	58.9	43	170.4	50	33.2	21	14.1	45
SITE MEAN	56.20		59.5		169.1		32.8		14.20	
C.V. (S/MEAN %)	12.11		1.68		0.65		3.59		4.28	
LSD (.05)	5.98		0.88		0.96		1.03		0.53	

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