

**PROJECT TITLE:** Statewide Spring Wheat Variety Performance - 2005

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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 2005 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 varieties at individual sites were BZ9M1044 at **Havre**, MT0249 at **Moccasin**, MT0411 at **Conrad**, Norpro at **Sidney dryland**, MT0476 at **Sidney irrigated**, MT0425 at **Huntley dryland**, Waieka at **Huntley irrigated**, MT0249 at **Kalispell**, MT0245 at **Bozeman dryland**, and MT0249 at **Bozeman irrigated**. Highest yielding lines on a statewide basis were MT0249 and Waieka (Table 6).

Lines with the highest test weights statewide were MT0459 and Banton (Table 2). Lines with the highest protein contents statewide were MT0415 and Scholar (Table 3). Earliest heading lines were MT0431 and MTHW0202, while latest heading lines Thatcher and MTHW0471 (Table 4). Shortest lines were Seedex 1504B and BZ9M1044, while tallest lines were Thatcher and Ernest (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 BZ9M1044 at Havre, MT0411 at Conrad, MT0249 at Moccasin, MT0425 at Huntley dryland, Waieka at Huntley irrigated, Norpro at Sidney dryland, MT0476 at Sidney irrigated, MT0245 at Bozeman dryland, MT0249 at Bozeman irrigated, and MT0249 at Kalispell. Highest yielding lines on a statewide basis were MT0249 and Waieka.

**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. 2005 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	52.83	31.95*	51.51	49.27*	81.23*	48.77*	90.94*	95.16	65.45*	90.20*	65.7*	3	1.14	0.92
Norpro	49.44	22.14	49.00	<u>52.67</u>	80.10*	32.92	95.71*	59.02	60.61	90.77*	59.2	28	1.22	0.91
Knudson	46.97	24.86	47.03	46.58	76.30*	39.60	82.27	77.92	58.20	82.50	58.2	33	1.08	0.97
Freyr	49.49	23.98	54.70*	47.90*	72.77*	44.92	86.33	84.28	58.62	84.80	60.8*	16	1.09	0.96
Agripro5	48.59	23.10	47.13	50.29*	72.53*	40.65	76.41	72.39	55.12	73.73	56.0	49	0.92	0.95
Alsen	54.03*	21.67	54.56*	45.26	68.63	44.25	70.70	81.56	60.16	67.37	56.8	41	0.83	0.82
BZ992322	55.57*	29.21*	50.96	48.02*	74.70*	44.44	85.82	71.54	67.54*	91.86*	62.0*	9	1.05	0.98
Conan	55.54*	25.31	49.73	44.60	59.60	39.61	73.72	81.35	57.19	78.39	56.5	45	0.91	0.90
BZ992592	57.55*	28.54	52.63	49.53*	77.43*	42.51	89.52*	64.74	61.98	85.61	61.0*	13	1.01	0.96
Triple IV	49.10	30.71*	55.53*	45.49	70.23	44.49	85.26	75.56	57.65	85.40	59.9	23	0.98	0.97
Agawam	53.56*	31.38*	55.78*	43.31	71.33*	45.76	85.74	66.10	64.11*	88.25	60.5	18	0.96	0.96
Waieka	59.94*	27.50	52.91	49.85*	77.87*	47.49	<u>96.34</u>	90.50	66.31*	92.35*	66.1*	2	1.21	0.97
BZ9M1024	52.50	24.76	49.41	50.49*	77.33*	42.60	82.15	97.36*	59.86	85.97	62.2*	8	1.14	0.88
BZ9M1044	<u>60.28</u>	27.04	53.76	48.70*	71.33*	42.35	90.83*	61.23	63.28	91.32*	61.0*	14	1.04	0.93
Thatcher	41.43	18.14	36.24	36.46	60.10	26.87	60.88	48.02	51.12	58.17	43.7	64	0.74	0.90
Fortuna	48.18	25.73	51.03	42.03	60.27	36.32	62.74	74.78	56.52	70.02	52.8	62	0.77	0.88
MT 0245	58.27*	25.83	55.00*	50.98*	49.90	38.24	86.36	72.37	<u>68.75</u>	87.22	59.3	26	0.98	0.85
MT 0249	60.09*	<u>33.13</u>	52.44	52.63*	69.50	47.25*	87.18	<u>104.35</u>	61.67	<u>96.60</u>	<u>66.5</u>	1	1.13	0.84
MT 0260	59.46*	24.93	55.93*	50.51*	55.50	33.81	88.59*	83.02	66.45*	91.65*	61.0*	15	1.13	0.89
MT 0266	50.35	24.25	53.10	50.44*	67.70	42.11	78.92	82.81	66.18*	87.13	60.3	21	1.04	0.95
MT 0313	44.42	24.15	48.78	42.88	70.80	30.63	85.12	61.45	54.25	85.84	54.8	52	1.11	0.96
MT 0315	48.40	24.31	40.77	44.25	62.90	31.82	77.04	68.08	55.42	78.71	53.2	60	0.99	0.98
MT 0318	49.03	24.23	50.21	45.59	69.57	29.60	80.43	49.04	56.92	81.66	53.6	58	0.97	0.87
MT 0319	45.01	25.80	47.37	46.50	68.67	30.47	78.32	48.15	57.52	80.71	52.9	61	0.93	0.87
MT 0325	43.46	24.71	42.87	46.51	68.67	29.58	81.68	67.08	57.34	85.74	54.8	53	1.10	0.96
MT 0336	57.30*	30.30*	49.63	48.14*	72.60*	36.41	87.25	63.54	64.45*	89.73*	59.9	24	1.03	0.94
MT 0342	54.54*	28.23	54.08	41.48	70.50	47.53*	80.18	75.28	66.02*	86.06	60.4	19	0.97	0.96
MT 0345	52.76	26.43	52.96	42.59	62.30	34.40	85.70	54.16	59.29	80.90	55.1	50	0.94	0.89
MT 0401	49.30	26.10	50.98	46.31	61.67	43.67	79.85	78.97	58.18	84.09	57.9	37	0.98	0.96
MT 0405	56.14*	26.37	56.24*	48.00*	73.00*	47.47*	82.86	79.81	59.10	87.16	61.6*	12	1.01	0.97
MT 0408	52.80	25.54	50.88	49.54*	81.37*	34.76	84.95	93.47	62.18	83.77	61.9*	10	1.18	0.91
MT 0410	48.61	26.27	48.16	45.89	58.60	33.31	77.98	57.21	61.41	87.65	54.5	54	0.96	0.91
MT 0411	56.87*	25.07	<u>61.68</u>	49.27*	67.00	40.57	88.45*	81.84	64.18*	95.45*	63.0*	6	1.15	0.97
MT 0412	57.62*	29.37*	53.66	49.21*	69.77	46.84*	88.99*	75.20	61.64	85.36	61.8*	11	0.98	0.98
MT 0413	50.07	29.58*	55.49*	47.28	79.50*	37.02	91.29*	100.78*	59.03	85.85	63.6*	4	1.22	0.88
MT 0414	49.55	23.69	54.67*	49.81*	68.93	41.91	75.71	90.13	63.53*	81.63	60.0	22	1.01	0.88
MT 0415	44.61	24.68	52.76	52.33*	76.17*	46.44*	75.99	94.09	61.53	75.02	60.4	20	0.97	0.80
MT 0416	53.59*	21.22	51.63	47.47*	79.50*	41.28	88.18*	90.73	66.65*	90.15*	63.0*	7	1.26	0.96
MT 0417	53.66*	23.50	55.29*	48.77*	67.80	43.96	81.99	68.55	58.39	84.24	58.6	30	0.97	0.98
MT 0418	48.34	27.20	48.80	46.47	60.70	39.07	90.00*	76.69	59.96	84.77	58.2	34	1.07	0.96

(continued)

Table 1 (continued). 2005 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 0421	52.57	25.10	58.85*	49.71*	74.57*	43.56	84.92	46.29	60.71	84.36	58.1	36	0.90	0.78
MT 0423	53.95*	29.15*	56.61*	47.91*	70.70	47.95*	89.26*	43.53	59.44	78.14	57.7	38	0.80	0.71
MT 0425	53.43	31.56*	55.42*	49.06*	63.50	<u>53.05</u>	92.42*	56.32	57.67	80.75	59.3	27	0.82	0.82
MT 0431	52.84	28.40	60.03*	47.71*	71.50*	44.38	81.13	40.19	56.28	83.36	56.6	44	0.79	0.68
MT 0432	41.63	27.04	45.66	50.49*	72.80*	33.18	86.37	38.02	55.73	84.09	53.5	59	0.96	0.72
MT 0433	53.61*	30.24*	48.09	48.89*	74.80*	42.11	89.12*	41.39	57.56	82.07	56.8	42	0.87	0.71
MT 0459	48.92	27.17	54.63*	47.54*	69.60	43.93	70.12	80.50	61.35	78.68	58.2	35	0.87	0.91
MT 0460	56.02*	29.19*	57.04*	46.39	72.40*	47.16*	82.02	46.80	61.67	76.61	57.5	39	0.75	0.75
MT 0461	41.45	22.50	45.98	46.72	64.07	40.46	79.57	61.34	59.62	80.34	54.2	56	0.96	0.96
MT 0464	50.89	19.55	48.62	46.22	71.83*	50.60*	81.16	82.68	55.11	76.26	58.3	32	1.00	0.89
MT 0465	51.15	28.46	49.76	44.86	62.60	41.87	78.93	74.48	57.60	74.26	56.4	46	0.86	0.97
MT 0476	50.63	25.63	48.19	46.66	<u>82.60</u>	34.20	92.86*	101.11*	62.81	87.99	63.3*	5	1.34	0.90
MTHW0202	50.55	28.61	48.87	40.69	61.17	38.15	92.57*	80.19	58.07	91.31*	59.0	29	1.17	0.94
MTHW0471	46.28	23.71	45.57	46.82	72.30*	29.79	80.07	66.48	60.87	79.01	55.1	51	1.04	0.96
Reeder	51.21	27.18	53.32	50.20*	62.60	43.39	72.43	92.36	60.74	83.58	59.7	25	0.94	0.83
McNeal	51.40	24.30	54.28	45.67	67.27	39.00	78.11	43.64	56.35	82.50	54.3	55	0.85	0.79
Ernest	46.13	20.86	37.72	44.06	63.20	29.31	76.06	61.79	52.80	74.34	50.6	63	0.98	0.97
Scholar	46.87	22.60	48.43	44.29	59.77	35.75	68.67	82.24	56.20	72.40	53.7	57	0.90	0.87
Explorer	48.47	28.01	54.12	46.09	70.00	39.44	78.55	67.75	57.29	83.12	57.3	40	0.94	0.99
Outlook	58.33*	26.03	51.90	46.42	75.87	45.04	89.79*	60.96	64.98*	86.36	60.6	17	1.02	0.93
Choteau	55.66*	26.78	50.54	46.13	55.77	34.93	82.98	71.35	56.61	87.38	56.8	43	1.00	0.93
Seedex 1504B	39.98	20.65	45.91	50.25*	64.30	35.17	88.48*	65.33	60.54	91.24*	56.2	47	1.18	0.95
Banton	52.13	23.87	50.34	42.99	67.20	47.05*	75.15	71.00	58.48	72.78	56.1	48	0.84	0.94
Buck Pronto	48.05	26.13	51.17	46.27	66.93	40.39	85.21	82.38	57.46	81.06	58.5	31	1.05	0.96
SITE MEAN	51.27	25.99	51.19	47.11	69.09	40.18	82.72	71.51	60.00	83.22	58.2		1.00	1.00
C.V. (S/MEAN %)	7.85	9.86	8.27	6.76	10.45	9.83	5.95	6.99	5.38	5.41	11.2			
LSD (.05)	6.81	4.35	7.18	5.20	11.66	6.62	8.23	8.37	5.46	7.67	5.8			

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. 2005 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	59.69*	59.35	61.30	63.24	62.18	54.57	62.20	61.90	62.20	62.90	61.0	5	0.85	0.75
Norpro	56.07	52.00	55.00	62.88	61.50	49.65	61.17	52.20	58.60	59.00	56.8	63	1.66	0.92
Knudson	57.63	54.95	59.40	63.07	61.67	54.43	60.90	57.50	60.20	61.50	59.1	36	1.10	0.98
Freyr	58.90	55.10	61.00	62.88	61.83	55.28	62.10	60.00	60.90	61.50	59.9	18	1.00	0.91
Agripro5	58.37	54.95	59.20	63.97*	62.50	56.74	62.03	60.60	60.90	62.30	60.2	10	1.01	0.88
Alsen	59.02	55.45	59.30	63.44	62.00	56.13	62.03	60.30	61.50	61.60	60.1	14	0.96	0.92
BZ992322	55.59	51.75	56.70	60.26	60.83	52.81	59.93	55.70	58.90	57.10	57.0	62	1.11	0.89
Conan	59.37	56.20	59.60	62.31	61.84	52.99	61.27	59.40	59.50	60.20	59.3	29	0.98	0.85
BZ992592	58.74	55.60	58.20	61.95	61.50	54.65	62.37	57.50	60.70	60.80	59.2	32	1.01	0.96
Triple IV	57.15	55.50	58.60	61.10	61.16	56.94	61.77	58.40	58.00	60.10	58.9	46	0.71	0.80
Agawam	59.45*	56.05	61.10	63.79*	62.83	58.13*	62.93*	61.40	62.60	63.40	61.2*	3	0.91	0.88
Waikea	55.70	51.95	54.90	60.50	60.00	53.33	60.80	58.90	57.80	60.60	57.4	59	1.13	0.82
BZ9M1024	57.68	54.30	59.60	61.24	61.34	53.41	60.40	60.30	59.60	61.70	59.0	40	1.03	0.85
BZ9M1044	59.80*	54.60	60.00	62.14	62.32	53.49	62.03	58.70	61.80	62.10	59.7	23	1.19	0.93
Thatcher	56.23	55.00	55.10	57.51	59.84	53.25	60.47	58.50	58.60	56.10	57.1	61	0.64	0.53
Fortuna	58.41	56.85	60.10	61.52	60.83	55.98	60.37	61.30	61.40	61.90	59.9	19	0.69	0.75
MT 0245	57.58	54.55	59.10	61.77	61.66	52.17	61.40	56.10	59.60	61.00	58.5	50	1.24	0.96
MT 0249	58.16	55.25	58.40	61.88	61.33	54.55	62.20	59.50	59.20	61.40	59.2	33	0.98	0.92
MT 0260	58.96	56.10	59.90	62.49	62.16	51.85	61.47	58.70	61.40	61.60	59.5	26	1.20	0.90
MT 0266	54.84	52.60	56.40	60.64	59.83	53.33	59.63	56.70	58.10	60.40	57.2	60	1.09	0.94
MT 0313	56.61	56.50	58.30	61.43	61.17	54.63	61.80	58.80	60.00	61.10	59.0	41	0.91	0.93
MT 0315	57.33	56.40	57.30	61.64	61.16	55.61	61.10	58.20	59.40	61.90	59.0	42	0.85	0.91
MT 0318	58.43	56.10	59.30	62.04	61.50	54.37	62.20	56.30	60.60	60.30	59.1	37	1.00	0.92
MT 0319	56.71	57.10	58.80	61.90	61.83	53.77	62.10	56.90	60.60	61.00	59.1	38	1.04	0.91
MT 0325	59.07	58.45	59.00	62.64	61.83	56.94	61.87	59.80	61.60	62.50	60.4	8	0.72	0.92
MT 0336	58.75	54.70	58.60	62.67	62.00	52.22	61.83	57.40	60.50	61.50	59.0	43	1.29	0.97
MT 0342	59.76*	55.15	60.40	62.83	62.34	58.04	63.03*	59.50	62.50	62.50	60.6	7	0.91	0.86
MT 0345	57.58	54.95	59.30	59.61	60.01	53.69	61.10	55.60	59.90	61.60	58.3	52	0.97	0.86
MT 0401	59.11	58.10	59.50	62.48	61.49	58.48*	61.77	59.00	61.20	60.80	60.2	11	0.55	0.89
MT 0405	58.28	54.95	57.30	62.54	61.34	54.86	61.13	59.80	59.10	62.80	59.2	34	1.02	0.87
MT 0408	58.09	53.70	56.90	61.96	61.16	51.46	61.07	59.60	59.60	59.50	58.3	53	1.20	0.86
MT 0410	58.54	57.65	59.60	62.04	62.18	55.47	61.90	55.00	59.70	61.60	59.4	27	0.90	0.78
MT 0411	58.30	56.30	60.30	63.63*	62.33	52.19	61.50	58.20	60.00	61.50	59.4	28	1.22	0.91
MT 0412	58.84	57.25	59.60	63.77*	62.33	57.11	61.77	57.10	60.70	62.00	60.0	15	0.87	0.89
MT 0413	58.11	55.25	58.80	63.17	62.01	53.67	62.40	60.80	61.30	60.80	59.6	25	1.13	0.89
MT 0414	57.25	56.45	59.10	63.31	62.17	54.58	61.87	59.60	61.70	62.20	59.8	22	1.08	0.94
MT 0415	58.30	56.95	59.80	63.01	62.00	57.06	61.67	60.00	60.60	62.60	60.2	12	0.81	0.94
MT 0416	57.63	57.65	58.50	62.16	61.01	53.92	61.47	59.50	60.60	60.90	59.3	30	0.88	0.87
MT 0417	57.67	57.50	60.00	62.85	62.17	54.99	62.07	57.10	60.80	63.70	59.9	20	1.05	0.89
MT 0418	56.61	54.60	57.60	62.76	62.17	55.72	61.87	59.80	60.20	60.40	59.2	35	1.01	0.86

(continued)

Table 2 (continued). 2005 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 0421	56.73	55.80	57.60	61.29	60.33	51.77	60.10	52.90	58.20	59.80	57.5	58	1.10	0.81
MT 0423	58.37	55.00	59.70	62.84	61.34	55.69	60.93	52.70	59.80	59.70	58.6	48	0.99	0.67
MT 0425	57.19	54.55	57.90	61.95	61.00	55.73	60.53	51.70	57.70	62.80	58.1	55	1.07	0.64
MT 0431	59.35	53.65	60.00	63.58*	62.00	56.06	60.77	53.60	60.40	62.00	59.1	39	1.15	0.74
MT 0432	56.29	54.30	56.90	63.32	62.34	52.95	62.30	53.10	59.90	62.10	58.4	51	1.48	0.89
MT 0433	57.76	54.10	57.20	63.11	61.16	53.50	60.50	50.00	59.50	60.90	57.8	57	1.31	0.70
MT 0459	59.77*	59.70	<u>62.50</u>	<u>64.47</u>	63.17*	58.99*	62.87*	<u>62.90</u>	<u>63.50</u>	<u>64.50</u>	<u>62.2</u>	1	0.68	0.79
MT 0460	59.11	57.25	60.70	62.75	62.50	56.05	62.30	54.60	61.50	63.30	60.0	16	1.02	0.75
MT 0461	58.46	58.30	59.50	62.13	61.00	57.45	62.17	58.30	61.40	63.30	60.2	13	0.71	0.84
MT 0464	59.07	56.70	58.90	63.28	62.52	57.84	61.33	60.90	60.90	62.00	60.3	9	0.75	0.85
MT 0465	60.06*	57.90	61.40	62.96	62.83	57.42	62.27	61.50	61.60	62.70	61.1*	4	0.73	0.92
MT 0476	55.56	50.85	54.70	58.43	59.32	49.33	59.83	58.00	59.60	56.30	56.2	64	1.22	0.76
MTHW0202	58.46	55.10	58.10	62.15	<u>63.83</u>	55.45	63.37*	59.70	60.30	62.90	59.9	21	1.15	0.91
MTHW0471	59.34	58.10	59.60	62.89	62.49	55.41	63.43*	60.60	62.20	64.30	60.8	6	1.00	0.90
Reeder	58.37	55.50	59.10	63.09	62.00	55.48	61.97	59.00	61.10	61.50	59.7	24	1.02	0.99
McNeal	57.38	52.90	58.80	61.08	61.84	54.32	62.23	51.90	60.90	61.00	58.2	54	1.30	0.77
Ernest	56.88	56.10	57.10	62.30	61.33	55.59	61.23	57.80	59.50	62.20	59.0	44	0.95	0.91
Scholar	58.98	57.60	60.00	62.13	61.50	56.49	61.80	60.20	60.50	61.30	60.0	17	0.69	0.95
Explorer	57.11	55.60	58.80	60.84	59.34	54.87	60.60	57.80	60.00	61.40	58.6	49	0.82	0.92
Outlook	58.04	53.60	57.10	60.97	60.66	53.99	60.93	54.80	59.80	60.50	58.0	56	1.09	0.91
Choteau	58.35	56.25	59.10	62.71	62.00	53.54	60.97	58.10	59.90	61.60	59.3	31	1.06	0.96
Seedex 1504B	56.74	54.80	58.50	62.33	61.51	53.32	61.40	57.70	59.40	61.00	58.7	47	1.15	0.99
Banton	<u>60.92</u>	58.75	62.40	64.03*	62.66	<u>60.50</u>	<u>63.47</u>	61.30	63.10	63.40	62.1*	2	0.58	0.85
Buck Pronto	56.83	53.85	57.90	61.86	61.50	54.96	61.27	60.10	59.70	62.30	59.0	45	1.07	0.87
SITE MEAN	58.02	55.63	58.82	62.24	61.62	54.83	61.59	57.98	60.35	61.43	59.3		1.0	1.00
C.V. (S/MEAN %)	1.40	1 rep	1 rep	0.98	0.66	2.66	0.62	1 rep	1 rep	1 rep	2.04			
LSD (.05)	1.38			1.01	0.66	2.43	0.61				1.06			

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. 2005 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	13.1	15.8	14.9	10.1	11.4	15.7	10.7	11.4	12.7	13.7	12.9	58	1.18	0.93
Norpro	12.7	16.8	15.2	11.5	11.2	15.0	10.9	13.0	13.5	14.7	13.4	46	1.14	0.97
Knudson	14.4	17.9	14.7	11.5	11.9	14.2	11.5	11.5	13.5	13.7	13.5	41	1.10	0.84
Freyr	12.7	15.9	14.0	12.1	11.6	14.3	12.3	12.8	13.0	14.3	13.3	48	0.74	0.92
Agripro5	13.7	18.1	15.6	11.8	11.6	16.1	11.9	11.0	14.8	<u>16.4</u>	14.1	7	1.39	0.92
Alsen	13.8	16.0	15.2	12.1	12.2	14.9	12.1	13.7	13.8	16.0	14.0*	13	0.85	0.89
BZ992322	14.4	16.1	15.3	11.5	11.4	14.9	12.2	12.4	13.9	14.5	13.7	31	0.96	0.94
Conan	13.7	16.0	15.2	12.0	12.1	15.5	12.4	13.0	14.0	14.5	13.8	24	0.85	0.98
BZ992592	13.6	<u>19.5</u>	15.7	11.2	11.5	15.4	11.4	12.2	14.1	14.3	13.9*	15	1.47	0.93
Triple IV	12.5	14.6	14.1	11.0	11.3	14.2	11.5	11.1	13.3	13.8	12.7	62	0.81	0.93
Agawam	12.7	16.1	13.3	12.0	11.2	13.5	11.3	10.8	11.9	13.6	12.6	64	0.83	0.80
Waikea	13.0	15.3	15.1	10.4	11.7	13.1	10.3	11.2	13.2	13.7	12.7	63	0.97	0.85
BZ9M1024	13.7	16.5	14.4	10.7	11.6	15.4	12.1	12.1	13.8	14.1	13.4	47	1.04	0.95
BZ9M1044	12.9	18.8	14.3	11.5	11.3	14.9	11.9	12.1	13.0	14.2	13.5	42	1.24	0.87
Thatcher	14.2	18.1	16.3	11.3	11.0	<u>16.7</u>	12.1	11.8	14.2	15.0	14.1*	8	1.44	0.97
Fortuna	13.0	17.4	14.5	12.0	12.0	15.4	<u>13.7</u>	12.0	13.9	15.0	13.9*	16	0.94	0.82
MT 0245	13.4	15.9	14.7	11.1	11.3	15.3	11.8	14.0	13.8	14.6	13.6	35	0.94	0.89
MT 0249	13.5	18.8	15.6	11.4	10.7	16.0	11.7	13.4	13.8	14.8	14.0*	14	1.41	0.95
MT 0260	12.8	15.5	14.1	11.1	11.0	14.8	10.8	12.7	13.1	13.5	12.9	59	0.93	0.95
MT 0266	14.2	16.1	15.1	12.3	12.6	14.8	12.6	12.5	14.8	15.5	14.1*	9	0.80	0.90
MT 0313	13.7	17.0	15.3	11.3	12.6	15.7	11.6	13.0	13.7	13.9	13.8	25	1.03	0.93
MT 0315	13.3	16.8	16.5	11.3	11.3	15.6	11.6	13.6	13.9	15.2	13.9*	17	1.19	0.94
MT 0318	13.1	16.0	15.1	11.9	12.2	16.0	11.5	13.8	14.3	14.5	13.8	26	0.91	0.89
MT 0319	14.1	15.6	15.4	11.9	11.6	15.6	11.4	13.6	14.1	14.9	13.8	27	0.93	0.90
MT 0325	13.9	16.8	15.8	12.3	12.2	15.9	12.5	12.9	14.4	15.0	14.2*	5	0.98	0.99
MT 0336	12.5	17.3	14.9	11.6	11.5	15.6	11.3	12.3	13.2	14.4	13.5	43	1.17	0.96
MT 0342	12.1	16.2	14.0	10.8	12.0	13.8	11.3	11.7	12.2	13.5	12.8	61	0.90	0.89
MT 0345	14.1	17.3	14.9	12.1	10.4	15.6	11.2	13.1	14.4	14.9	13.8	28	1.20	0.93
MT 0401	14.4	15.8	15.4	12.2	12.1	14.7	12.9	13.8	14.5	15.5	14.1*	10	0.74	0.87
MT 0405	12.8	17.0	15.8	12.9	11.9	15.0	12.4	12.3	15.2	15.4	14.1*	11	0.99	0.86
MT 0408	11.8	18.4	15.0	10.3	11.5	14.9	11.1	12.5	13.0	14.3	13.3	49	1.36	0.91
MT 0410	14.2	16.6	15.1	12.1	12.1	14.9	12.0	13.0	14.7	14.8	13.9*	18	0.91	0.96
MT 0411	11.9	15.0	13.6	11.3	10.9	15.3	11.4	12.3	13.3	14.3	12.9	60	0.89	0.88
MT 0412	13.1	15.0	14.7	12.4	12.3	14.1	12.2	12.6	14.2	14.7	13.5	44	0.63	0.90
MT 0413	12.9	17.2	15.2	11.1	11.8	15.4	11.8	12.5	13.4	15.3	13.7	32	1.17	0.97
MT 0414	14.0	16.6	15.8	12.3	12.3	15.9	12.7	<u>14.3</u>	14.6	15.7	14.4*	3	0.91	0.94
MT 0415	14.4	16.3	15.3	<u>13.2</u>	12.6	15.4	13.1	14.0	<u>14.9</u>	15.7	<u>14.5</u>	1	0.71	0.94
MT 0416	12.7	15.0	14.3	11.1	12.2	14.7	11.7	11.9	13.8	14.4	13.2	51	0.80	0.91
MT 0417	13.8	15.1	15.3	12.6	11.9	15.2	12.5	12.8	14.1	15.8	13.9*	19	0.76	0.84
MT 0418	14.3	17.1	15.0	10.8	11.5	14.6	12.3	12.8	13.2	14.7	13.6	36	1.06	0.91

(continued)

Table 3 (continued). 2005 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 0421	13.8	15.1	14.7	11.9	11.9	15.5	11.8	12.8	13.9	13.8	13.5	45	0.77	0.90
MT 0423	13.4	16.7	15.0	12.5	11.6	15.9	11.7	13.4	13.5	15.0	13.9*	20	0.99	0.94
MT 0425	13.1	15.2	13.9	12.3	11.1	13.5	12.1	12.7	13.5	13.6	13.1	55	0.62	0.87
MT 0431	12.9	16.3	14.4	12.3	11.7	15.7	12.1	13.0	14.1	14.0	13.7	33	0.87	0.92
MT 0432	14.4	16.4	15.6	10.8	10.0	15.5	10.3	13.1	13.6	13.8	13.3	50	1.28	0.89
MT 0433	12.1	14.9	15.6	10.8	11.5	15.3	11.2	12.7	13.9	13.8	13.2	52	0.96	0.84
MT 0459	13.7	15.0	14.5	12.3	12.3	15.0	12.4	12.6	13.6	15.1	13.7	34	0.67	0.90
MT 0460	13.9	16.9	15.2	11.5	13.0	15.8	11.6	11.4	14.8	15.4	13.9*	21	1.10	0.88
MT 0461	14.0	16.2	15.0	11.7	11.1	15.3	11.9	12.7	14.1	14.4	13.6	37	0.99	0.96
MT 0464	12.6	14.7	14.5	10.4	11.9	15.2	11.9	11.2	12.9	14.5	13.0	56	0.90	0.84
MT 0465	13.2	15.5	14.9	12.1	12.0	16.1	12.6	12.6	14.5	15.4	13.9	22	0.86	0.87
MT 0476	12.5	17.2	15.8	10.9	10.4	15.9	10.1	11.7	12.2	13.6	13.0	57	1.43	0.93
MTHW0202	13.5	15.3	14.9	11.7	10.5	16.2	10.9	12.1	13.6	13.8	13.2	53	1.06	0.88
MTHW0471	14.4	18.7	<u>16.7</u>	11.6	11.2	14.7	11.4	12.3	13.5	13.8	13.8	29	1.35	0.88
Reeder	13.4	16.7	15.3	12.9	12.5	14.7	12.6	13.5	14.5	15.3	14.1*	12	0.79	0.93
McNeal	14.2	18.3	14.7	12.1	11.4	15.8	11.4	12.9	13.3	15.3	13.9*	23	1.24	0.92
Ernest	13.1	17.0	16.7	12.1	12.3	16.4	12.4	12.9	14.8	15.5	14.3*	4	1.13	0.94
Scholar	<u>15.3</u>	16.1	15.9	11.9	<u>14.8</u>	15.4	12.2	13.1	14.5	15.8	14.5*	2	0.75	0.66
Explorer	14.5	16.2	14.8	11.4	<u>11.6</u>	14.3	12.4	13.1	13.1	14.2	13.6	38	0.84	0.87
Outlook	12.7	17.9	14.9	12.3	11.9	15.1	11.2	12.1	13.8	14.3	13.6	39	1.13	0.91
Choteau	12.9	15.2	15.3	11.7	11.2	15.2	12.4	13.2	14.2	14.8	13.6	40	0.85	0.88
Seedex 1504B	13.5	16.6	14.5	11.4	11.2	15.2	11.0	11.8	13.4	13.0	13.2	54	1.06	0.92
Banton	13.9	17.5	15.0	12.2	12.2	14.9	12.9	13.6	14.2	15.7	14.2*	6	0.93	0.91
Buck Pronto	13.6	16.5	15.6	11.3	11.6	16.0	11.9	12.0	14.5	15.2	13.8	30	1.16	0.96
SITE MEAN	13.43	16.49	15.05	11.66	11.69	15.20	11.81	12.59	13.80	14.62	13.6		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	5.02			
LSD (.05)											0.60			

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. 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
ACS52610	179.5	184.3	186.0	172.0	173.5	170.3	169.0	178.7	187.0	188.0	178.8	57	1.11	0.99
Norpro	176.4	182.7	184.0	171.6	172.3	171.3	170.0	176.0	185.0	184.0	177.3	44	<b>0.92</b>	<b>0.99</b>
Knudson	177.5	184.3	185.0	171.9	172.1	171.1	170.3	176.3	187.0	187.0	178.2	53	1.06	0.99
Freyr	177.1	182.7	183.0	171.0	171.5	170.0	168.6	175.4	185.0	184.0	176.8	32	0.98	1.00
Agripro5	175.8	183.0	183.0	171.3	171.7	169.6	168.7	175.4	185.0	184.0	176.7	31	0.98	0.99
Alsen	174.3	181.0	183.0	171.3	172.1	167.8	168.0	174.3	184.0	183.0	175.9	21	0.96	0.98
BZ992322	174.7	181.0	183.0	170.1	172.4	168.7	167.3	175.3	184.0	184.0	176.1	25	0.99	0.99
Conan	177.3	182.0	184.0	170.7	172.3	169.1	167.3	175.0	185.0	185.0	176.8	33	1.05	0.99
BZ992592	177.8	183.7	185.0	173.0	172.9	171.5	169.0	176.3	186.0	187.0	178.2	54	1.02	0.99
Triple IV	173.6	180.0	181.0	168.0	169.2	165.4	164.0	172.3	181.0	181.0	173.5	3	1.04	0.99
Agawam	173.6	180.7	182.0	169.6	169.9	167.2	165.0	172.4	182.0	182.0	174.4	11	1.02	1.00
Waieka	174.6	181.0	182.0	170.0	171.8	168.0	166.0	173.1	183.0	184.0	175.3	17	1.01	0.99
BZ9M1024	174.6	182.7	184.0	172.0	172.4	168.9	169.0	175.0	184.0	186.0	176.8	34	1.01	0.98
BZ9M1044	175.4	182.7	184.0	169.9	170.5	168.3	168.0	174.4	183.0	184.0	176.0	23	1.04	1.00
Thatcher	177.5	186.7	186.0	173.4	173.3	173.3	171.3	180.4	188.0	187.0	179.7	63	1.02	0.98
Fortuna	174.7	183.0	184.0	171.1	170.7	170.8	170.0	176.0	184.0	185.0	176.9	38	0.97	0.98
MT 0245	177.8	183.0	184.0	172.4	172.0	171.1	169.7	176.3	186.0	185.0	177.7	48	0.97	1.00
MT 0249	175.4	182.3	184.0	170.4	171.6	168.8	167.3	174.0	184.0	182.0	176.0	24	1.00	0.99
MT 0260	179.3	184.0	185.0	172.9	172.5	171.5	170.3	177.3	187.0	188.0	178.8	58	1.04	0.99
MT 0266	174.5	180.3	182.0	170.5	170.8	169.3	167.0	173.4	183.0	184.0	175.5	19	0.96	0.99
MT 0313	177.7	183.0	185.0	172.7	172.5	170.1	169.3	176.3	186.0	186.0	177.9	51	1.02	0.99
MT 0315	178.1	182.7	184.0	172.4	171.1	170.7	170.0	176.7	186.0	186.0	177.8	49	0.99	0.98
MT 0318	174.9	181.3	183.0	171.1	171.6	169.2	168.6	175.3	184.0	184.0	176.3	26	0.95	0.99
MT 0319	175.5	182.0	183.0	171.0	171.5	169.8	168.3	175.7	184.0	184.0	176.5	28	0.96	1.00
MT 0325	176.3	183.3	184.0	171.7	171.6	170.3	168.7	175.4	185.0	185.0	177.1	41	1.01	1.00
MT 0336	175.7	182.3	185.0	171.6	172.0	170.2	169.3	174.7	183.0	185.0	176.9	39	0.96	0.98
MT 0342	177.1	183.7	184.0	172.4	171.3	171.1	168.6	175.0	186.0	186.0	177.5	46	1.04	0.99
MT 0345	177.4	182.7	184.0	172.1	172.2	170.9	169.3	177.3	186.0	186.0	177.8	50	0.99	0.99
MT 0401	173.8	180.7	182.0	170.6	171.2	168.0	168.0	174.0	182.0	183.0	175.3	18	0.92	0.99
MT 0405	175.3	182.0	182.0	170.3	171.0	168.8	168.3	174.3	182.0	183.0	175.7	20	0.92	0.99
MT 0408	178.2	185.3	186.0	172.1	173.3	173.0	171.3	179.0	188.0	188.0	179.4	62	1.05	0.99
MT 0410	177.0	183.3	185.0	172.3	172.5	170.2	169.0	176.3	185.0	185.0	177.6	47	1.00	1.00
MT 0411	173.0	180.0	181.0	169.0	<u>168.1</u>	167.2	165.4	172.7	182.0	182.0	174.0	6	1.02	1.00
MT 0412	173.0	180.3	181.0	169.6	169.6	166.2	165.7	173.0	182.0	182.0	174.2	9	1.00	0.99
MT 0413	173.7	181.3	182.0	170.6	171.5	169.6	168.0	174.3	184.0	184.0	175.9	22	0.96	0.99
MT 0414	174.7	182.3	184.0	171.6	171.7	169.7	168.7	175.6	184.0	184.0	176.6	29	0.97	1.00
MT 0415	175.4	182.3	184.0	171.9	171.6	169.9	168.4	175.7	185.0	184.0	176.8	35	0.99	1.00
MT 0416	175.8	182.0	184.0	172.1	172.0	169.7	168.7	175.3	184.0	184.0	176.8	36	0.95	1.00
MT 0417	173.8	180.0	182.0	168.4	169.0	165.9	164.4	172.4	182.0	182.0	174.0	7	1.08	1.00
MT 0418	173.6	179.7	182.0	169.3	168.4	166.1	165.0	172.6	181.0	183.0	174.1	8	1.05	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 0421	177.5	182.7	184.0	171.6	171.7	170.3	168.7	176.7	185.0	184.0	177.2	43	0.97	0.99
MT 0423	174.3	180.0	182.0	168.7	168.6	166.0	165.4	172.6	181.0	183.0	174.2	10	1.05	0.99
MT 0425	173.7	180.3	182.0	169.0	170.3	166.9	165.7	173.4	182.0	183.0	174.6	13	1.03	1.00
MT 0431	177.0	<u>177.0</u>	<u>179.0</u>	<u>167.4</u>	170.5	<u>163.7</u>	<u>160.3</u>	<u>171.4</u>	<u>179.0</u>	<u>179.0</u>	<u>172.4</u>	1	0.99	0.93
MT 0432	176.0	182.7	184.0	172.1	171.5	169.8	168.4	176.0	184.0	185.0	176.9	40	0.99	1.00
MT 0433	174.0	180.0	182.0	170.3	168.8	168.7	166.7	173.3	182.0	183.0	174.9	15	0.97	1.00
MT 0459	175.9	181.7	184.0	172.1	172.1	168.8	168.0	175.3	185.0	183.0	176.6	30	0.98	0.99
MT 0460	175.7	183.0	183.0	171.3	172.6	170.2	168.9	176.1	185.0	185.0	177.1	42	0.97	0.99
MT 0461	177.5	185.0	185.0	173.0	172.3	172.2	170.0	178.0	187.0	186.0	178.6	56	1.01	0.99
MT 0464	<u>172.0</u>	179.0	182.0	169.0	169.6	165.0	164.4	172.0	181.0	181.0	173.5	4	1.03	0.98
MT 0465	<u>172.4</u>	180.3	182.0	170.0	170.7	169.2	167.0	174.0	182.0	182.0	175.0	16	0.91	0.98
MT 0476	178.8	184.7	186.0	173.1	173.0	172.3	170.6	177.4	188.0	188.0	179.2	61	1.06	1.00
MTHW0202	172.4	179.3	181.0	168.4	169.0	163.4	160.7	172.0	181.0	181.0	172.8*	2	1.14	0.97
MTHW0471	179.4	185.0	186.0	173.1	173.4	173.8	171.0	180.3	188.0	187.0	179.7	64	0.99	0.98
Reeder	176.1	182.3	183.0	171.3	172.1	169.1	167.3	174.4	183.0	184.0	176.3	27	0.97	0.99
McNeal	178.1	184.0	184.0	172.2	172.7	171.1	169.0	176.6	187.0	186.0	178.1	52	1.03	0.99
Ernest	176.1	183.0	184.0	171.3	171.4	171.5	169.0	176.6	185.0	185.0	177.3	45	0.98	0.99
Scholar	179.0	184.3	184.0	172.4	172.7	171.3	169.7	178.1	187.0	187.0	178.5	55	1.03	0.99
Explorer	173.9	180.7	182.0	168.4	171.1	167.0	164.6	172.3	182.0	182.0	174.4	12	1.03	0.98
Outlook	177.6	185.0	185.0	173.4	173.0	172.3	171.0	179.1	188.0	187.0	179.1	60	1.01	0.99
Choteau	176.2	182.3	183.0	171.6	171.3	170.4	169.3	175.7	184.0	184.0	176.8	37	0.92	0.99
Seedex 1504B	179.6	182.7	184.0	172.7	173.3	172.5	171.0	178.1	187.0	188.0	178.9	59	0.96	0.97
Banton	172.1	180.0	182.0	170.7	170.9	166.9	166.0	173.0	182.0	183.0	174.7	14	0.99	0.98
Buck Pronto	173.1	179.3	182.0	169.3	169.9	164.4	164.0	171.7	181.0	182.0	173.7	5	1.06	0.98
SITE MEAN	175.7	182.1	183.4	171.1	171.4	169.3	167.9	175.2	184.2	184.3	176.5		1.00	
C.V. (S/MEAN %)	1.45	0.49	1 rep	0.35	0.47	0.38	0.35	0.38	1 rep	1 rep	0.44			
LSD (.05)	1.73	1.45		0.99	1.34	1.10	1.01	1.09			0.68			

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. 2005 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	28.2	30.9	34.0	26.2	30.5	36.3	37.0	32.8	32.1	34.6	32.3	50	0.76	0.90
Norpro	28.8	28.3	31.0	25.8	29.6	34.3	40.4	30.7	30.7	34.2	31.4	58	0.94	0.97
Knudson	28.4	32.1	35.0	25.8	30.6	36.4	42.3	32.7	33.4	37.8	33.4	39	1.08	0.95
Freyr	28.6	33.1	35.0	28.2	35.1*	39.0	43.6	33.6	34.1	39.1	34.9	22	1.06	0.94
Agripro5	31.0	34.6	36.0	28.7	31.8	40.7	45.2	36.1	36.1	40.4	36.1	12	1.14	0.95
Alsen	29.0	32.3	34.0	26.5	34.0	36.9	42.4	32.4	34.0	37.6	33.9	37	1.01	0.94
BZ992322	29.5	28.4	32.0	26.8	28.5	33.9	38.8	31.1	30.9	34.1	31.4	59	0.80	0.96
Conan	29.1	26.5	30.0	25.1	27.5	34.3	39.4	33.5	30.5	34.3	31.0	61	0.95	0.87
BZ992592	26.1	32.0	37.0	27.1	34.7	38.4	42.2	33.3	32.6	38.4	34.2	28	1.11	0.88
Triple IV	28.7	31.5	34.0	28.1	30.9	34.2	40.0	32.1	32.6	34.4	32.6	45	0.76	0.94
Agawam	28.7	30.5	31.0	26.6	29.4	33.9	37.1	29.8	31.9	33.8	31.3	60	0.69	0.95
Waikea	29.2	32.1	35.0	27.4	31.7	38.2	42.4	33.2	34.1	37.9	34.1	32	1.04	0.99
BZ9M1024	27.3	28.6	33.0	25.8	29.9	36.8	40.6	33.6	31.7	37.1	32.4	47	1.09	0.97
BZ9M1044	25.7	25.9	28.0	24.9	27.0	33.2	36.6	27.4	28.7	31.1	28.8	64	0.85	0.95
Thatcher	<u>38.1</u>	<u>32.6</u>	<u>43.0</u>	<u>36.6</u>	<u>39.2</u>	<u>44.4</u>	<u>49.4</u>	<u>43.2</u>	<u>42.2</u>	<u>46.3</u>	<u>41.5</u>	1	1.03	0.80
Fortuna	34.5*	<u>38.7</u>	42.0	32.6	34.4	43.2*	45.2	38.9	38.7	41.8	39.0	3	0.88	0.83
MT 0245	33.2	29.5	32.0	28.2	27.6	38.9	45.1	33.9	34.3	37.6	34.0	34	1.14	0.82
MT 0249	29.4	32.1	35.0	26.9	30.3	35.4	40.5	33.3	31.2	35.7	33.0	42	0.87	0.92
MT 0260	29.9	29.4	34.0	27.5	31.7	39.3	43.9	36.5	34.1	40.8	34.7	24	1.21	0.94
MT 0266	30.1	30.5	36.0	28.5	33.5	38.9	42.6	33.8	34.5	36.8	34.5	27	0.99	0.97
MT 0313	30.3	31.4	36.0	29.6	35.0*	40.1	44.3	35.9	36.3	40.4	35.9	14	1.09	0.97
MT 0315	31.9	32.6	36.0	29.9	37.7*	38.9	46.0	35.4	34.7	41.6	36.5	10	1.07	0.91
MT 0318	32.0	32.1	38.0	27.7	31.5	40.0	42.8	32.0	36.4	39.0	35.1	19	1.05	0.89
MT 0319	30.4	33.8	37.0	30.5	32.6	39.5	43.6	33.3	35.0	37.1	35.3	18	0.93	0.93
MT 0325	32.0	33.3	36.0	29.8	34.9	38.4	44.8	34.1	35.8	40.3	35.9	15	0.99	0.97
MT 0336	30.8	29.8	35.0	29.3	32.4	37.9	43.0	35.9	36.0	37.6	34.8	23	0.97	0.94
MT 0342	28.7	31.4	35.0	27.6	33.6	37.3	42.6	33.5	33.2	38.6	34.1	33	1.04	0.97
MT 0345	31.8	28.7	33.0	27.1	29.6	35.7	39.0	30.9	30.5	35.4	32.2	51	0.79	0.88
MT 0401	29.8	30.9	34.0	30.0	31.2	37.7	43.2	32.9	34.3	36.3	34.0	35	0.95	0.96
MT 0405	27.8	30.7	34.0	27.3	30.8	35.8	40.1	32.3	32.4	36.2	32.7	44	0.91	0.98
MT 0408	34.2	31.8	39.0	32.3	36.7*	41.0	48.8*	37.5	36.7	41.9	38.0	5	1.15	0.94
MT 0410	29.2	29.3	38.0	29.4	32.7	39.2	45.8	36.3	35.1	40.8	35.6	16	1.26	0.94
MT 0411	26.7	29.2	34.0	26.2	29.3	37.5	40.7	30.4	31.8	33.8	32.0	54	1.05	0.94
MT 0412	27.7	29.4	31.0	24.9	30.1	37.8	43.3	32.2	32.0	35.3	32.4	48	1.21	0.96
MT 0413	29.3	30.9	33.0	27.5	33.8	38.6	43.3	34.1	34.0	38.0	34.2	29	1.08	0.96
MT 0414	30.2	33.1	37.0	28.9	33.7	41.1	46.9*	36.1	36.4	41.4	36.5	11	1.27	0.99
MT 0415	29.1	33.7	36.0	29.8	33.0	39.7	44.9	37.7	35.5	40.8	36.0	13	1.11	0.93
MT 0416	30.3	29.1	33.0	26.8	32.3	37.4	42.1	32.7	33.8	35.8	33.3	41	1.00	0.96
MT 0417	29.3	30.0	36.0	28.8	32.4	39.1	43.2	32.7	33.6	37.2	34.2	30	1.07	0.97
MT 0418	30.9	32.2	36.0	27.5	32.6	39.1	42.5	33.8	34.6	36.6	34.6	25	0.98	0.96

(continued)

Table 5 (continued). 2005 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 0421	26.2	26.9	32.0	26.9	32.2	36.8	42.2	30.1	31.6	36.0	32.1	52	1.15	0.94
MT 0423	30.4	29.5	33.0	25.8	30.1	38.0	40.7	30.7	31.7	34.2	32.4	49	0.97	0.92
MT 0425	29.9	30.1	33.0	26.0	28.4	37.1	39.4	32.4	30.7	33.8	32.1	53	0.89	0.90
MT 0431	27.4	27.8	31.0	25.9	29.0	33.7	36.6	26.4	28.5	31.5	29.8	62	0.74	0.86
MT 0432	31.6	30.2	35.0	27.2	32.5	36.7	40.1	31.8	31.6	37.8	33.4	40	0.87	0.91
MT 0433	27.4	29.2	30.0	27.8	29.9	34.9	41.8	30.5	30.2	35.5	31.7	57	0.99	0.92
MT 0459	30.3	32.6	38.0	31.0	33.2	40.3	46.3	38.2	36.1	41.6	36.8	9	1.16	0.95
MT 0460	32.5	33.2	34.0	27.7	33.7	40.9	43.7	35.2	34.4	40.9	35.6	17	1.08	0.93
MT 0461	32.8	31.9	37.0	32.9	33.5	41.4	47.5*	37.4	36.0	41.4	37.2	7	1.12	0.93
MT 0464	32.9	33.6	39.0	31.0	36.5*	43.4*	43.2	33.2	36.6	40.4	37.0	8	0.95	0.85
MT 0465	31.6	33.3	35.0	29.1	34.2	37.9	43.7	32.6	35.0	37.4	35.0	20	0.91	0.94
MT 0476	30.2	30.6	37.0	28.4	35.0*	36.7	42.1	34.9	33.0	38.0	34.6	26	0.92	0.91
MTHW0202	29.2	30.0	34.0	28.7	29.3	36.6	39.7	31.4	30.8	35.4	32.5	46	0.84	0.93
MTHW0471	31.9	34.5	40.0	32.2	34.4	39.6	46.0	36.9	37.2	42.5	37.5	6	1.03	0.94
Reeder	30.5	32.3	35.0	30.0	31.2	37.5	44.5	35.4	34.2	39.6	35.0	21	1.03	0.95
McNeal	28.1	30.7	33.0	28.7	33.7	38.4	41.8	31.0	32.4	38.8	33.6	38	1.02	0.91
Ernest	34.8*	34.6	38.0	32.4	37.8*	41.2	49.3*	38.7	39.6	44.1	39.1	2	1.13	0.95
Scholar	34.2*	33.5	37.0	31.6	37.2*	42.3*	46.6*	39.3	38.4	42.6	38.3	4	1.05	0.94
Explorer	28.0	30.4	32.0	25.7	31.1	34.9	40.4	31.0	32.6	34.3	32.0	55	0.92	0.96
Outlook	28.9	28.7	34.0	28.2	35.2*	37.8	43.7	32.4	33.2	38.1	34.0	36	1.10	0.92
Choteau	28.3	29.5	32.0	25.6	29.0	34.4	40.5	30.7	32.4	36.9	31.9	56	1.00	0.96
Seedex 1504B	26.8	26.2	27.0	26.1	25.4	32.1	36.7	27.6	31.3	33.1	29.2	63	0.80	0.81
Banton	27.4	34.3	38.0	27.5	31.6	39.3	42.4	30.3	33.8	37.1	34.2	31	1.07	0.82
Buck Pronto	29.8	29.3	33.0	27.5	30.3	36.2	40.7	32.8	32.9	36.3	32.9	43	0.92	0.98
SITE MEAN	30.0	31.0	34.7	28.3	32.2	37.9	42.6	33.5	33.8	37.7	34.2		1.00	1.00
C.V. (S/MEAN %)	7.94	4.87	1 rep	4.97	8.08	3.29	4.01	4.78	3.03	2.85	3.88			
LSD (.05)	4.03	2.55		2.31	4.25	2.12	2.78	2.69	1.71	1.78	1.16			

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. 2005 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	65.7*	3	61.0	5	178.8	57	32.3	50	12.9	58
Norpro	59.2	28	56.8	63	177.3	44	31.4	58	13.4	46
Knudson	58.2	33	59.1	36	178.2	53	33.4	39	13.5	41
Freyr	60.8*	16	59.9	18	176.8	32	34.9	22	13.3	48
Agripro5	56.0	49	60.2	10	176.7	31	36.1	12	14.1	7
Alsen	56.8	41	60.1	14	175.9	21	33.9	37	14.0*	13
BZ992322	62.0*	9	57.0	62	176.1	25	31.4	59	13.7	31
Conan	56.5	45	59.3	29	176.8	33	31.0	61	13.8	24
BZ992592	61.0*	13	59.2	32	178.2	54	34.2	28	13.9*	15
Triple IV	59.9	23	58.9	46	173.5	3	32.6	45	12.7	62
Agawam	60.5	18	61.2*	3	174.4	11	31.3	60	12.6	64
Waikea	66.1*	2	57.4	59	175.3	17	34.1	32	12.7	63
BZ9M1024	62.2*	8	59.0	40	176.8	34	32.4	47	13.4	47
BZ9M1044	61.0*	14	59.7	23	176.0	23	28.8	64	13.5	42
Thatcher	43.7	64	57.1	61	179.7	63	<u>41.5</u>	1	14.1*	8
Fortuna	52.8	62	59.9	19	176.9	38	39.0	3	13.9*	16
MT 0245	59.3	26	58.5	50	177.7	48	34.0	34	13.6	35
MT 0249	<u>66.5</u>	1	59.2	33	176.0	24	33.0	42	14.0*	14
MT 0260	61.0*	15	59.5	26	178.8	58	34.7	24	12.9	59
MT 0266	60.3	21	57.2	60	175.5	19	34.5	27	14.1*	9
MT 0313	54.8	52	59.0	41	177.9	51	35.9	14	13.8	25
MT 0315	53.2	60	59.0	42	177.8	49	36.5	10	13.9*	17
MT 0318	53.6	58	59.1	37	176.3	26	35.1	19	13.8	26
MT 0319	52.9	61	59.1	38	176.5	28	35.3	18	13.8	27
MT 0325	54.8	53	60.4	8	177.1	41	35.9	15	14.2*	5
MT 0336	59.9	24	59.0	43	176.9	39	34.8	23	13.5	43
MT 0342	60.4	19	60.6	7	177.5	46	34.1	33	12.8	61
MT 0345	55.1	50	58.3	52	177.8	50	32.2	51	13.8	28
MT 0401	57.9	37	60.2	11	175.3	18	34.0	35	14.1*	10
MT 0405	61.6*	12	59.2	34	175.7	20	32.7	44	14.1*	11
MT 0408	61.9*	10	58.3	53	179.4	62	38.0	5	13.3	49
MT 0410	54.5	54	59.4	27	177.6	47	35.6	16	13.9*	18
MT 0411	63.0*	6	59.4	28	174.0	6	32.0	54	12.9	60
MT 0412	61.8*	11	60.0	15	174.2	9	32.4	48	13.5	44
MT 0413	63.6*	4	59.6	25	175.9	22	34.2	29	13.7	32
MT 0414	60.0	22	59.8	22	176.6	29	36.5	11	14.4*	3

(continued)

Table 6 (continued). 2005 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	AVE	RANK	AVE	RANK	AVE
MT 0415	60.4	20	60.2	12	176.8	35	36.0	13	<u>14.5</u>	1
MT 0416	63.0*	7	59.3	30	176.8	36	33.3	41	13.2	51
MT 0417	58.6	30	59.9	20	174.0	7	34.2	30	13.9*	19
MT 0418	58.2	34	59.2	35	174.1	8	34.6	25	13.6	36
MT 0421	58.1	36	57.5	58	177.2	43	32.1	52	13.5	45
MT 0423	57.7	38	58.6	48	174.2	10	32.4	49	13.9*	20
MT 0425	59.3	27	58.1	55	174.6	13	32.1	53	13.1	55
MT 0431	56.6	44	59.1	39	<u>172.4</u>	1	29.8	62	13.7	33
MT 0432	53.5	59	58.4	51	176.9	40	33.4	40	13.3	50
MT 0433	56.8	42	57.8	57	174.9	15	31.7	57	13.2	52
MT 0459	58.2	35	<u>62.2</u>	1	176.6	30	36.8	9	13.7	34
MT 0460	57.5	39	60.0	16	177.1	42	35.6	17	13.9*	21
MT 0461	54.2	56	60.2	13	178.6	56	37.2	7	13.6	37
MT 0464	58.3	32	60.3	9	173.5	4	37.0	8	13.0	56
MT 0465	56.4	46	61.1*	4	175.0	16	35.0	20	13.9	22
MT 0476	63.3*	5	56.2	64	179.2	61	34.6	26	13.0	57
MTHW0202	59.0	29	59.9	21	172.8*	2	32.5	46	13.2	53
MTHW0471	55.1	51	60.8	6	179.7	64	37.5	6	13.8	29
Reeder	59.7	25	59.7	24	176.3	27	35.0	21	14.1*	12
McNeal	54.3	55	58.2	54	178.1	52	33.6	38	13.9*	23
Ernest	50.6	63	59.0	44	177.3	45	39.1	2	14.3*	4
Scholar	53.7	57	60.0	17	178.5	55	38.3	4	14.5*	2
Explorer	57.3	40	58.6	49	174.4	12	32.0	55	13.6	38
Outlook	60.6	17	58.0	56	179.1	60	34.0	36	13.6	39
Choteau	56.8	43	59.3	31	176.8	37	31.9	56	13.6	40
Seedex 1504B	56.2	47	58.7	47	178.9	59	29.2	63	13.2	54
Banton	56.1	48	62.1*	2	174.7	14	34.2	31	14.2*	6
Buck Pronto	58.5	31	59.0	45	173.7	5	32.9	43	13.8	30
SITE MEAN	58.2		59.3		176.5		34.2		13.6	
C.V. (S/MEAN %)	11.2		2.04		0.44		3.88		5.02	
LSD (.05)	5.8		1.06		0.68		1.16		0.60	

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