

PROJECT TITLE: Statewide Spring Wheat Variety Performance

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OBJECTIVE:

To evaluate new and existing varieties and lines of spring wheat under various Montana conditions.

RESULTS:

The 1991 Advanced Yield Spring Wheat trial was grown at seven rainfed and three irrigated locations across Montana. Kalispell and Conrad were considered high rainfall areas. Replicated multiple-row plots were established at all locations using standard research techniques.

Yield, test weight, heading date and plant height at maturity are summarized in Tables 1, 2, 3 and 4 respectively. Rainfall was adequate or high at most of the Advanced Yield Trial sites in 1991. While rainfall was high at both Sidney sites, incidence of disease was high, which greatly reduced the yields at the irrigated site. Test weights of the spring wheat grown at Havre, Sidney, and Huntley were reduced due to high temperatures during grainfill. The nursery at Moccasin was completely destroyed by hail on July 14, so no data are available for that site.

SUMMARY:

The highest yielding varieties on a statewide average were MT 8289 and MT 9040, hard red spring wheat lines, and Owens and Penawawa, soft white wheat varieties. Spring wheats Penawawa, Owens, MT 8182, and MT 8289, and durum Lloyd, generally yielded most in the irrigated and high rainfall nurseries, while Amidon, Klasic, and MT 8849 generally yielded most under drier conditions.

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

Table 1.

 1991 YIELD (BU/AC) SUMMARY FOR THE ADVANCED
 SPRING WHEAT NURSERY-GROWN ACROSS MONTANA

ID	PEDIGREE	Boz irr	Boz dry	Hav dry	Sid dry	Sid irr	Kal dry	Hun dry	Hun irr	Con dry	AVG	BYE	ESQ
BZ984326	FPB BZ 984-326	95.14	50.90	54.43	40.79	52.10	84.50	24.51	81.58	52.89	60.80	0.93	0.83
C982-324	RAMBO	107.02	49.43	48.49	42.96	42.68	103.22	46.56	74.97	80.01	66.40	1.15	0.99
CI 10003	TRATCHER	53.37	40.67	37.94	27.60	33.17	55.24	35.09	56.39	53.74	48.00	0.59	0.93
CI 13595	FORTUNE	77.30	46.73	50.41	40.52	43.75	74.42	52.72	75.87	69.93	59.20	0.64	0.89
CI 15930	OLAF	130.40	52.53	51.69	43.67	45.51	92.85	52.95	82.59	72.30	56.10	0.95	0.97
CI 17429	LEV	76.35	47.82	43.98	37.76	48.46	75.79	47.38	76.44	70.39	58.30	0.68	0.69
CI 17430	BEVINK	91.57	50.05	49.06	41.52	43.34	117.10	38.02	77.56	80.67	65.40	1.19	0.93
CI 17790	LEM	101.21	50.88	53.48	41.89	35.99	95.15	37.70	79.20	73.91	63.30	1.10	0.97
CI 17829	PONDERA	94.01	52.03	50.09	45.44	45.82	102.29	38.99	81.87	78.43	65.30	1.05	0.98
CI 17904	OVENS	105.55	51.06	50.45	52.36	45.00	109.56	45.24	91.01	89.15	71.00	1.20	0.97
GOLDEN86	GOLDEN 86	102.85	50.72	50.78	42.69	33.99	105.47	50.52	74.30	76.24	65.40	1.15	0.96
MT 8182	YDING "S"/PCI "S"-287	97.48	52.83	46.46	43.18	38.07	111.05	49.35	78.30	84.63	65.80	1.17	0.96
MT 8289	TAMAGER'S'	109.81	47.64	54.81	47.24	48.59	114.37	51.71	82.31	82.39	70.00	1.13	0.97
MT 8402	HI-LINE	103.44	46.77	51.98	42.73	45.26	98.04	51.75	75.99	76.12	66.00	1.03	0.98
MT 8512	CI15838/MT7418//PONDERA	100.84	53.74	55.23	41.02	38.63	111.98	45.10	81.19	65.48	65.80	1.15	0.95
MT 8841	MT7648/MT7746	100.47	46.95	49.24	46.09	50.65	91.09	49.40	75.44	78.81	65.50	0.93	0.97
MT 8849	RS6880/MT7819	99.39	55.45	53.15	50.31	53.80	108.29	40.13	72.58	80.24	68.30	1.02	0.93
MT 8858	MT7421/BUTTE	99.83	50.10	53.76	40.05	42.53	95.66	35.17	98.59	84.19	66.80	1.19	0.93
MT 9002	EP-VOC-512/12/BUTTE	105.07	51.09	49.11	43.81	47.31	112.32	37.32	85.84	89.22	69.00	1.25	0.98
MT 9016	PONDERA/MT7732	94.15	47.75	44.04	40.26	36.63	99.01	35.20	59.93	71.91	58.90	1.07	0.95
MT 9017	PONDERA/MT7732	98.51	45.30	43.19	41.92	47.91	95.69	40.34	68.69	70.89	62.40	1.02	0.96
MT 9019	PONDERA/MT7732	95.75	50.04	44.18	49.97	43.21	91.09	42.27	68.18	55.61	61.10	0.90	0.95
MT 9020	PONDERA/MT7732	90.33	48.19	49.44	41.92	44.80	112.13	37.24	81.96	82.17	65.40	1.16	0.94
MT 9021	PONDERA/MT7732	100.68	51.31	50.34	34.22	38.81	90.47	51.12	76.37	62.92	61.80	1.00	0.94
MT 9023	PONDERA/MT7732	89.42	45.11	45.38	32.52	44.57	101.77	26.90	66.90	55.85	55.50	1.01	0.88
MT 9024	PONDERA/MT7732	89.27	49.07	45.95	37.49	49.54	91.30	36.77	74.46	70.92	56.50	0.94	0.97
MT 9025	PONDERA/MT7732	104.06	51.65	46.80	40.63	37.78	102.47	53.05	76.74	70.32	64.80	1.11	0.96
MT 9027	PONDERA/BUTTE	98.90	48.33	48.31	41.59	38.12	89.16	51.22	70.69	61.13	50.80	0.93	0.94
MT 9028	PONDERA/BUTTE	93.53	48.24	47.68	37.41	33.27	93.60	49.26	71.93	68.89	60.40	1.00	0.97
MT 9030	PONDERA/BUTTE	99.15	50.10	47.13	36.98	44.86	93.93	53.08	76.77	66.50	63.20	0.98	0.96
MT 9032	PONDERA/BUTTE	95.21	46.06	48.34	39.69	42.19	85.87	36.12	69.43	68.52	59.00	0.95	0.97
MT 9039	MT7646/ANTIZANA	98.00	47.43	45.32	40.32	50.35	85.53	34.55	74.78	72.66	61.00	0.97	0.94
MT 9040	MT7648/MT7746	107.10	51.91	54.32	49.05	54.12	92.24	55.50	85.70	82.91	70.30	0.95	0.95
MT 9042	MT7648/MT7746	95.10	47.65	49.11	44.44	48.36	100.36	46.16	69.37	87.01	65.30	1.00	0.93
MT 9043	MT7648/MT7746	103.63	55.28	50.33	45.17	46.22	101.03	56.10	81.82	71.82	67.90	1.01	0.97
MT 9044	MT7648/MT7746	101.74	49.00	52.23	44.98	49.23	83.62	54.60	83.61	75.75	66.10	0.88	0.92
MT 9045	MT7648/BUTTE	100.94	47.78	48.69	35.22	43.95	90.31	46.84	78.98	81.50	63.80	1.06	0.97
MT 9052	RS6880/MT7819	92.14	54.88	53.71	40.18	35.92	95.22	49.52	84.32	74.23	64.50	0.99	0.96
MT 9053	RS6880/MT7819	93.57	53.66	50.70	32.99	34.31	96.82	50.49	75.41	70.65	62.20	1.03	0.95
MT 9054	RS6880/MT7819	84.49	49.53	51.78	37.89	41.87	82.80	47.66	73.34	66.18	59.50	0.78	0.98
MT 9055	RS6880/MT7819	88.59	49.01	50.52	37.99	40.62	92.51	49.77	70.02	74.48	61.50	0.90	0.97
MT 9057	RS6880/MT7834	93.62	54.21	54.66	36.43	41.92	102.10	47.15	81.21	77.44	65.70	1.04	0.98
MT 9058	MT7635/KLECKARI	90.85	49.42	54.55	45.56	52.31	99.83	53.59	79.26	64.95	65.60	0.85	0.94
ND 582	STOA	95.21	49.96	46.68	41.21	49.42	93.00	41.63	89.33	65.86	63.60	1.00	0.94
ND 606	AMIDON	103.65	51.14	52.26	43.71	51.26	109.43	42.59	81.23	75.25	67.80	1.14	0.96
ND	CUT CUTLESS	76.69	44.35	44.56	42.98	44.86	78.25	41.40	79.88	50.56	57.10	0.72	0.90
PI483235	GLENLEN	93.56	55.12	51.23	37.93	40.59	81.40	46.90	87.35	78.30	63.60	0.91	0.90
PI486139	KLASIC	103.21	56.11	50.53	49.20	49.85	95.53	49.93	71.82	75.71	68.00	0.89	0.96
VE 6920	PEKLVANL	105.49	48.57	56.40	48.29	43.95	112.25	51.86	88.45	79.55	70.70	1.17	0.98
*****	SITE MARK	95.80	49.97	49.86	41.70	43.99	95.10	45.11	77.65	73.48	63.70	1.00	1.00

Table 2.

1991 TEST WEIGHT (LB/BU) SUMMARY FOR THE ADVANCED
 SPRING WHEAT NURSERY GROWN ACROSS MONTANA

ID	PEDIGREE	Boz irr	Boz drv	Hav dry	Sid dry	Sid irr	Kal dry	Hun drv	Hun irr	Con drv	AVG	BYE	ESQ
BZ984325	WFB BZ 984-325	51.60	58.60	60.30	60.55	59.45	59.58	60.10	59.80	55.00	60.50	0.91	0.87
C982-324	KANBO	61.30	59.50	58.53	61.65	59.30	60.89	58.10	53.20	53.80	59.60	1.13	0.52
CI 10003	TEATCHER	55.70	55.50	57.87	57.17	55.73	59.25	56.60	56.90	54.10	58.10	1.30	0.95
CI 13595	FOXTUNA	62.40	60.40	62.05	61.35	59.45	60.97	60.60	61.90	55.30	61.60	0.76	0.75
CI 15930	OLAF	60.50	57.80	59.01	59.27	60.04	59.27	58.20	54.70	63.40	59.20	1.01	0.57
CI 17429	LEV	62.20	61.10	60.21	60.52	60.90	60.50	60.70	60.50	65.70	61.40	0.81	0.81
CI 17430	NEVANA	59.80	58.80	57.95	59.02	59.45	60.35	58.00	55.90	63.20	59.30	0.85	0.81
CI 17790	LEX	61.60	57.30	60.57	59.77	56.95	59.89	58.80	60.00	64.40	59.90	1.03	0.76
CI 17828	PONDERA	61.80	59.80	61.22	60.10	60.02	60.85	58.20	58.10	55.00	60.60	1.03	0.89
CI 17904	OWENS	59.60	57.80	56.87	59.40	57.19	57.80	55.50	53.50	53.60	57.90	1.31	0.77
GOLDEN86	GOLDEN 86	62.30	62.50	62.81	61.28	57.34	61.80	58.90	58.80	65.60	61.30	1.02	0.59
MT 8182	YDING "S"/PCI "S"-287	56.30	57.30	55.61	57.16	53.33	58.64	56.50	53.00	62.40	56.70	1.20	0.66
MT 8289	TANAGER'S'	61.00	57.00	57.53	58.19	58.32	60.73	58.10	60.40	65.80	59.70	1.26	0.78
MT 8402	HI-LINE	62.00	55.30	59.03	60.45	60.40	59.64	60.00	61.40	64.80	60.30	0.96	0.52
MT 8612	CI15838/MT7418//PONDERA	61.90	61.50	61.85	61.17	59.27	61.58	58.30	61.40	65.70	61.40	0.92	0.73
MT 8841	MT7648/MT7746	59.20	56.10	57.17	58.48	59.84	58.38	56.20	59.00	64.40	58.20	1.12	0.73
MT 8849	RS6880/MT7819	61.60	57.90	58.62	58.62	58.93	60.67	58.50	57.70	64.20	59.60	1.06	0.89
MT 8858	MT7421/BUTTE	58.50	55.60	57.33	59.56	57.95	59.00	57.20	59.80	64.10	58.80	1.06	0.72
MT 9002	EF-70C-512/12/BUTTE	56.40	58.00	58.95	61.87	60.27	59.91	59.70	54.50	60.50	59.10	0.43	0.15
MT 9016	PONDERA/MT7732	59.10	56.90	58.75	59.16	58.28	59.29	58.40	58.50	63.10	59.10	0.84	0.91
MT 9017	PONDERA/MT7732	59.60	57.70	59.00	59.26	60.44	59.64	56.90	58.10	62.90	59.30	0.80	0.77
MT 9019	PONDERA/MT7732	60.00	58.10	60.10	60.69	59.14	59.56	58.30	55.20	63.00	59.30	0.91	0.67
MT 9020	PONDERA/MT7732	57.30	56.70	57.57	59.11	58.92	60.91	56.10	59.00	63.80	58.80	1.01	0.66
MT 9021	PONDERA/MT7732	61.80	60.30	61.56	60.50	57.96	61.58	60.20	56.40	65.30	60.60	1.12	0.72
MT 9023	PONDERA/MT7732	60.90	60.20	60.42	62.00	62.41	61.13	60.70	56.20	64.30	60.90	0.77	0.45
MT 9024	PONDERA/MT7732	59.90	56.00	58.86	59.84	59.85	60.07	57.10	58.50	64.00	59.30	1.07	0.82
MT 9025	PONDERA/MT7732	61.90	60.10	60.79	61.03	57.59	61.47	59.00	58.10	65.70	60.60	1.18	0.86
MT 9027	PONDERA/BUTTE	62.10	57.60	60.98	59.99	56.91	60.93	58.00	60.00	64.70	60.10	1.13	0.78
MT 9028	PONDERA/BUTTE	61.30	59.10	60.35	59.73	56.36	60.80	59.00	56.70	65.40	59.90	1.28	0.83
MT 9030	PONDERA/BUTTE	62.20	59.70	60.86	60.56	59.49	60.96	59.00	61.40	65.30	61.10	0.91	0.85
MT 9032	PONDERA/BUTTE	60.10	57.80	60.00	60.47	57.88	59.66	59.60	56.60	64.10	59.60	1.02	0.82
MT 9039	MT7648/ANTIZANA	61.00	58.30	59.53	59.48	60.21	60.59	59.10	57.10	64.50	60.00	1.03	0.88
MT 9040	MT7648/MT7746	60.80	55.30	59.29	58.76	60.92	59.67	57.30	58.30	64.30	59.40	1.13	0.72
MT 9042	MT7648/MT7746	57.40	55.70	55.71	55.53	58.56	59.23	56.10	57.10	62.90	57.60	1.04	0.68
MT 9043	MT7648/MT7746	60.90	58.90	58.84	57.59	57.30	61.28	57.70	57.60	64.80	59.40	1.20	0.84
MT 9044	MT7648/MT7746	58.80	55.50	58.93	59.14	59.24	58.65	58.40	61.20	63.70	59.30	0.82	0.50
MT 9045	MT7648/BUTTE	61.00	57.60	60.52	61.35	60.65	60.63	58.10	61.90	65.30	60.80	0.95	0.68
MT 9052	RS6880/MT7819	60.10	59.30	59.59	58.22	57.84	59.79	58.10	57.10	64.60	59.40	1.09	0.89
MT 9053	RS6880/MT7819	59.90	56.90	59.45	56.22	55.55	58.77	55.70	57.80	62.90	58.10	1.10	0.76
MT 9054	RS6880/MT7819	60.50	60.20	59.66	58.92	59.32	60.02	57.90	59.20	64.00	60.00	0.81	0.82
MT 9055	RS6880/MT7819	57.70	56.90	58.67	58.52	58.80	60.20	59.50	57.30	63.70	59.00	0.90	0.71
MT 9057	RS6880/MT7834	59.00	58.20	59.93	58.51	57.29	59.70	57.00	60.00	64.50	59.30	1.02	0.77
MT 9058	MT7635/MACOZARI	60.10	59.00	61.53	59.94	58.66	60.95	59.60	61.10	64.30	60.60	0.75	0.70
ND 582	STOA	59.20	57.20	58.08	59.89	59.83	59.85	58.60	56.90	64.10	59.30	1.01	0.52
ND 606	KYIDOK	60.50	59.40	61.43	60.25	59.52	60.42	58.20	57.80	64.00	60.20	0.89	0.85
ND CUT	CUTLESS	61.90	60.00	61.32	60.99	59.67	59.50	58.10	60.20	63.80	60.60	0.72	0.70
PI483235	GLENMAN	61.30	58.90	58.75	58.66	56.37	59.26	57.10	57.90	64.50	59.20	1.18	0.85
PI486139	KLASIC	63.30	60.10	61.77	58.88	58.34	59.62	58.10	59.70	65.40	60.60	1.09	0.71
VL 6920	PERENLVL	58.80	57.00	58.64	58.50	56.86	59.29	58.70	59.40	64.40	59.10	1.03	0.60
*****	SITE MEAN *****	60.39	58.21	59.50	59.54	58.68	60.07	58.24	58.24	64.26	59.70	1.00	1.00

Table 3.

1991 WEEDING DATE (DAYS FROM JAN. 1) SUMMARY FOR THE
ADVANCED SPRING WHEAT NURSERY GROUNTS ACROSS MONTANA

ID	PEDIGREE	Boz irr	Boz irr	Hav dry	Sid dry	Sid irr	Kal dry	Hun dry	Hun irr	Con dry	WG	BTI	RSQ
BZ964325	WFB BZ 984-325	184.00	184.00	173.97	165.81	167.33	175.22	154.00	153.50	178.00	173.00	0.93	0.98
C982-324	RANBO	192.00	191.00	178.32	171.73	172.37	182.33	167.50	167.50	183.00	178.40	1.09	0.99
CI 10003	THEYCEER	189.00	188.00	177.07	171.73	171.55	184.04	167.00	167.50	181.50	177.40	0.99	0.99
CI 13596	PORTUNE	189.00	187.00	175.70	169.97	169.79	182.33	167.50	167.00	182.00	176.80	1.01	0.99
CI 15930	OLLY	189.00	188.00	175.45	171.65	171.41	180.14	167.00	167.00	181.00	176.70	0.97	0.99
CI 17429	LEV	190.00	190.00	178.63	172.97	171.74	184.92	168.50	170.00	183.00	178.90	0.99	0.99
CI 17430	NEWARK	191.00	190.00	178.04	173.10	172.02	183.49	159.50	169.50	184.00	179.00	0.99	0.99
CI 17790	LEN	186.00	184.00	174.97	168.56	169.03	176.09	165.00	165.50	177.00	174.20	0.93	0.97
CI 17826	PONDERA	187.00	187.00	175.36	169.62	169.68	180.22	165.50	167.00	180.00	175.70	0.97	1.00
CI 17904	OWENS	189.00	188.00	175.94	168.61	169.00	183.11	166.50	167.00	180.00	176.40	1.05	0.99
GOLDEN86	GOLDEN 86	186.00	185.00	174.74	166.64	167.70	176.02	163.00	164.00	178.00	173.50	1.01	0.99
MT 8182	YDING "S"/PCI "S"-287	189.00	189.00	176.29	169.91	171.23	180.42	165.50	166.50	182.90	176.60	1.05	0.99
MT 8289	YANIGER'S'	188.00	188.00	175.02	167.11	168.70	176.82	164.00	165.00	177.00	174.40	1.05	0.97
MT 8402	HI-LINE	188.00	188.00	175.02	169.73	170.35	178.52	164.00	164.00	178.00	175.10	1.05	0.98
MT 8612	CI15838/MT7418/PONDERA	187.00	185.00	175.04	169.62	169.40	179.82	167.00	166.00	181.00	175.50	0.93	0.99
MT 8841	MT7648/MT7746	189.00	189.00	175.32	170.03	170.41	181.40	167.00	167.50	180.00	175.50	0.99	0.99
MT 8849	RS6880/MT7619	190.00	189.00	177.37	173.12	172.75	182.94	167.50	168.50	183.00	178.20	0.96	0.99
MT 8858	MT7421/BUTTE	188.00	189.00	176.02	169.00	170.45	182.87	167.00	167.00	181.00	175.70	1.03	0.99
MT 9002	EP-VOC-512/12/BUTTE	189.00	189.00	176.40	168.20	168.03	182.51	167.00	167.00	182.00	176.60	1.09	0.99
MT 9016	PONDERA/MT7732	189.00	187.00	176.40	170.71	170.75	182.62	167.00	168.50	182.00	177.10	0.97	0.99
MT 9017	PONDERA/MT7732	188.00	188.00	176.25	169.85	169.57	181.01	167.00	167.50	181.00	175.50	0.99	1.00
MT 9019	PONDERA/MT7732	186.00	186.00	174.67	169.03	168.85	178.15	165.50	165.50	178.00	174.60	0.94	1.00
MT 9020	PONDERA/MT7732	191.00	189.00	177.90	172.93	172.22	183.71	168.50	168.00	183.00	178.50	1.01	1.00
MT 9021	PONDERA/MT7732	190.00	189.00	176.65	171.15	170.97	181.65	167.00	167.50	181.00	177.20	1.02	0.99
MT 9023	PONDERA/MT7732	187.00	187.00	174.96	168.52	168.96	181.07	166.50	167.00	182.00	175.90	0.99	0.99
MT 9024	PONDERA/MT7732	187.00	185.00	174.64	169.08	168.73	178.97	167.00	166.00	181.00	175.30	0.94	0.99
MT 9025	PONDERA/MT7732	190.00	189.00	177.07	171.67	171.62	182.25	167.00	168.50	183.00	177.80	1.02	1.00
MT 9027	PONDERA/BUTTE	189.00	188.00	176.93	171.86	171.37	182.52	167.00	168.50	182.00	177.50	0.97	1.00
MT 9028	PONDERA/BUTTE	189.00	189.00	176.90	171.40	171.32	182.12	167.00	167.00	182.00	177.30	1.02	1.00
MT 9030	PONDERA/BUTTE	190.00	189.00	177.05	170.77	171.28	182.34	167.00	167.50	181.00	177.30	1.03	1.00
MT 9032	PONDERA/BUTTE	191.00	190.00	177.67	172.35	172.44	181.76	168.00	168.50	182.00	178.20	1.01	0.99
MT 9039	MT7648/ANTIZANK	189.00	187.00	177.05	171.70	171.01	182.24	167.50	168.00	183.00	177.40	0.96	0.99
MT 9040	MT7648/MT7746	186.00	185.00	174.34	167.98	168.34	181.01	164.50	165.50	178.00	174.70	0.98	0.99
MT 9042	MT7648/MT7746	189.00	189.00	176.55	171.72	171.59	180.95	166.50	167.50	180.00	177.00	0.99	0.99
MT 9043	MT7648/MT7746	190.00	189.00	177.33	172.23	171.40	182.70	167.50	168.00	182.00	177.80	1.01	1.00
MT 9044	MT7648/MT7746	188.00	188.00	175.09	167.73	167.90	180.77	167.00	167.00	182.00	175.90	1.04	0.98
MT 9045	MT7648/BUTTE	186.00	185.00	174.70	167.81	168.62	177.16	163.00	164.00	178.00	173.80	0.99	0.99
MT 9052	RS6880/MT7819	188.00	188.00	176.71	171.00	169.98	182.63	167.00	166.50	182.00	176.90	1.01	1.00
MT 9053	RS6880/MT7819	188.00	187.00	177.31	170.83	169.90	181.54	168.00	168.00	182.00	177.00	0.94	0.99
MT 9054	RS6880/MT7819	190.00	189.00	177.67	172.02	171.42	185.14	168.00	169.00	183.00	178.40	1.01	0.99
MT 9055	RS6880/MT7619	191.00	190.00	177.90	172.55	172.28	183.93	169.00	170.50	185.00	179.10	1.00	0.99
MT 9057	RS6880/MT7834	190.00	189.00	176.32	171.95	172.08	181.81	167.50	168.50	183.00	177.80	1.00	1.00
MT 9058	MT7635/WACZELEI	189.00	189.00	175.01	169.29	170.25	181.05	165.00	167.35	181.00	176.20	1.04	0.99
ND 582	STOA	188.00	188.00	175.07	169.89	169.94	182.51	167.00	167.50	181.00	176.70	1.00	1.00
ND 606	AKIDON	188.00	188.00	175.55	170.23	169.62	182.56	167.00	167.00	183.00	176.80	1.02	0.99
ND CUT	CUTLESS	188.00	186.00	175.29	168.86	168.97	182.11	167.00	166.50	182.00	176.10	1.00	0.99
PI483235	GLENNER	188.00	189.00	176.73	171.53	170.95	182.49	167.00	168.00	183.00	177.40	0.99	0.99
PI486139	KLASIC	183.00	183.00	174.59	164.79	165.70	174.30	161.00	162.00	175.00	171.50	0.98	0.97
VL 6920	PENNAWL	189.00	187.00	176.28	169.12	170.35	182.03	165.50	166.50	182.00	176.30	1.03	1.00
*****	SITE MEAN *****	189.47	187.76	176.17	170.18	170.23	181.19	166.52	167.05	181.12	176.50	1.00	1.00

Table 4.

1991 PLANT HEIGHT (INCHES) SUMMARY FOR THE
ADVANCED SPRING TREAT NURSERY GROWN ACROSS MONTANA

ID	PEDIGREE	Boz irr	Boz dry	Hav dry	Sid dry	Sid irr	Kal dry	Hun dry	Hun irr	Con dry	AVG	BYE	RSQ
BZ994326	WPE BZ 964-326	35.45	28.95	35.43	30.12	30.91	34.21	32.50	37.00	38.00	33.50	1.90	0.94
C982-324	RLNBO	35.71	27.39	33.51	29.98	30.03	33.55	31.00	35.50	32.00	32.10	0.81	0.61
CI 10003	THATCHER	40.92	37.58	42.49	35.05	37.27	45.84	42.00	47.00	46.00	41.50	1.27	0.83
CI 13596	FORTUNA	42.78	35.44	40.09	33.89	34.50	41.54	39.50	43.00	42.00	39.20	1.12	0.89
CI 15930	OLAF	35.64	28.76	33.90	31.87	33.51	35.47	32.00	36.50	35.00	33.50	0.71	0.80
CI 17429	LEV	42.10	34.59	41.46	34.87	34.66	43.25	41.00	46.50	43.00	40.20	1.39	0.94
CI 17430	NEVINK	33.24	26.80	33.08	31.74	30.34	33.37	30.50	34.50	33.00	31.80	0.67	0.78
CI 17790	LEN	37.28	28.14	32.83	31.07	29.46	34.34	31.50	37.00	34.00	32.80	0.93	0.82
CI 17828	PONDERA	33.69	27.66	34.08	30.35	31.55	34.85	34.50	36.50	36.00	33.20	0.98	0.89
CI 17904	OWENS	33.90	28.37	34.35	30.26	31.14	36.05	33.50	37.50	35.00	33.30	0.92	0.94
GOLDEN66	GOLDEN 85	31.46	27.06	31.36	27.40	28.00	30.02	28.50	32.50	33.00	29.90	0.69	0.68
MT 8182	YDING "S"/PCI "S"-287	33.66	27.10	33.84	30.57	30.44	32.63	32.00	35.50	36.00	32.40	0.86	0.90
MT 8289	TANAGER'S'	32.68	26.35	32.19	25.90	28.26	31.41	29.50	37.00	33.00	30.70	1.10	0.90
MT 8402	HI-LIKE	31.94	26.41	32.98	28.70	29.48	31.09	29.50	32.50	33.00	30.60	0.68	0.85
MT 8612	C115838/MT7418//PONDERA	34.07	27.92	33.48	30.80	28.50	35.38	34.50	37.00	37.00	33.20	1.04	0.89
MT 8841	MT7548/MT7746	33.57	26.21	34.56	30.30	30.48	33.54	32.50	36.50	34.00	32.40	0.93	0.89
MT 8849	RS6880/MT7619	35.04	28.73	35.47	32.95	33.02	36.80	33.00	39.00	37.00	34.50	0.93	0.98
MT 8858	MT7421/BUTTE	35.45	27.26	35.70	31.74	31.20	35.38	35.50	38.00	38.00	34.20	1.09	0.90
MT 9002	EP-VOC-512/12/BUTTE	35.78	29.21	35.18	30.37	32.29	35.49	32.50	39.50	37.00	34.10	1.05	0.95
MT 9016	PONDERA/MT7732	40.84	35.62	39.51	32.54	33.74	41.69	37.50	43.50	43.00	38.70	1.23	0.88
MT 9017	PONDERA/MT7732	41.91	36.40	40.21	34.09	35.59	41.98	41.50	44.50	41.00	39.70	1.03	0.81
MT 9019	PONDERA/MT7732	39.88	34.67	38.57	32.81	32.82	40.47	36.00	41.50	40.00	37.40	1.04	0.88
MT 9020	PONDERA/MT7732	32.28	26.59	33.11	30.64	32.80	32.92	32.00	33.50	33.00	31.90	0.54	0.59
MT 9021	PONDERA/MT7732	34.42	28.76	34.94	29.60	26.37	33.55	31.00	36.00	35.00	32.20	1.01	0.85
MT 9023	PONDERA/MT7732	44.16	37.28	42.03	34.76	34.74	43.89	40.00	43.50	46.00	40.70	1.25	0.82
MT 9024	PONDERA/MT7732	42.73	36.21	40.01	34.63	35.03	41.89	39.50	44.50	45.00	39.90	1.21	0.89
MT 9025	PONDERA/MT7732	34.51	28.29	37.22	30.63	32.25	36.62	32.50	38.00	36.00	34.00	1.01	0.89
MT 9027	PONDERA/BUTTE	35.76	26.57	36.31	30.25	31.61	34.12	31.50	39.00	36.00	33.70	1.05	0.90
MT 9028	PONDERA/BUTTE	35.47	27.36	35.76	30.19	31.25	34.58	32.50	37.00	36.00	33.30	1.03	0.95
MT 9030	PONDERA/BUTTE	35.39	26.09	35.01	30.53	31.51	34.35	33.50	37.00	36.00	33.50	0.93	0.96
MT 9032	PONDERA/BUTTE	37.15	30.34	37.33	31.99	32.91	43.40	33.50	42.00	39.00	36.10	1.27	0.92
MT 9039	MT7548/ERTIZENA	36.64	26.70	37.26	31.12	30.62	34.83	34.00	37.50	37.00	34.20	1.03	0.92
MT 9040	MT7548/MT7746	37.92	29.96	37.02	31.51	30.97	38.53	35.00	40.00	39.00	35.50	1.24	0.99
MT 9042	MT7648/MT7746	35.48	28.59	34.45	30.51	31.85	34.19	31.50	37.50	35.00	33.20	0.87	0.92
MT 9043	MT7648/MT7746	37.01	30.14	36.53	32.38	32.75	38.17	35.00	39.00	38.00	35.40	0.99	0.98
MT 9044	MT7648/MT7746	34.24	26.39	34.03	28.98	30.22	36.25	32.50	35.50	36.00	32.70	1.09	0.93
MT 9045	MT7648/BUTTE	36.37	29.67	35.96	30.88	32.43	34.83	34.00	38.50	38.00	34.50	0.97	0.95
MT 9052	RS6880/MT7819	35.60	29.92	36.18	32.19	30.27	36.02	33.50	37.50	36.00	34.10	0.88	0.94
MT 9053	RS6880/MT7819	34.93	28.10	34.70	31.43	32.24	35.58	33.50	37.50	37.00	33.90	0.94	0.95
MT 9054	RS6880/MT7819	35.31	28.86	34.78	32.69	31.75	36.71	32.50	37.50	37.00	34.10	0.90	0.92
MT 9055	RS6880/MT7819	36.03	29.01	35.60	33.77	33.86	38.52	36.00	39.50	39.00	35.70	0.99	0.86
MT 9057	RS6880/MT7834	36.15	28.35	35.70	31.86	33.63	36.02	36.00	38.00	37.00	35.00	0.95	0.65
MT 9058	MT7535/KACOLARI	35.31	27.55	35.00	29.68	29.08	34.21	30.50	37.00	36.00	32.70	1.11	0.95
ND 582	STOL	41.16	35.12	39.57	31.60	34.32	41.41	40.50	45.00	43.00	39.10	1.33	0.85
ND 605	AMIDON	42.67	35.80	38.85	34.24	34.49	40.08	39.00	46.00	42.00	39.20	1.18	0.84
ND CUT	CUTLESS	37.63	31.58	34.14	31.09	30.77	38.64	34.00	38.50	41.00	35.30	1.11	0.61
PI483235	GLENNAK	32.03	28.06	35.80	32.06	27.23	34.92	34.00	37.00	36.00	33.00	0.98	0.74
PI486139	KLASIC	24.80	20.63	24.30	22.29	19.50	23.78	23.50	27.00	26.00	23.50	0.71	0.84
VA 6920	PENAWALE	34.19	25.32	33.09	28.10	28.66	33.52	28.50	34.50	34.00	31.10	1.07	0.91
*****	SITE KEAN *****	36.17	29.60	35.69	31.16	31.43	36.30	33.88	38.40	37.24	34.40	1.00	1.00