

PROJECT TITLE: 1989 Montana Oat Variety Performance Trial

PERSONNEL: Tom Blake and Pat Hensleigh - MSU, Bozeman  
Vern Stewart and Todd Keener - Northwestern Ag. Res. Ctr. - Kalispell, MT  
Gregg Carlson - Northern Ag. Res. Ctr. - Havre  
Grant Jackson - Central Ag. Res. Ctr. - Moccasin  
Joyce Eckoff - Eastern Ag. Res. Ctr. - Sidney  
Gil Stallknecht - Southern Ag. Res. Ctr. - Huntley

OBJECTIVE:

To determine the adaptability of new and introduced oat varieties to Montana the Northwestern Uniform Oat Nursery is grown through out the state in several locations under irrigation, high moisture and dryland conditions.

SUMMARY:

Fair growing conditions through out the state contributed to normal state-wide results for the Uniform Oat nursery. Mean yields were higher than yields of last year that were affected by lack of precipitation in some areas of Montana. Oat performance did not increase significantly from last year in irrigated locations except at Sidney. Agronomic data from the dryland locations in 1989 did reflect oat performance without the drought influence that was seen in many Montana nursery sites last year. No data was collected from the Huntley irrigated or Moccasin location this season.

RESULTS:

Irrigated or high moisture -  
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The Kalispell, Bozeman, and Sidney locations had very good yields this year. The harvest data from Kalispell was very good yet shy of last year's averages by about 3 bushel/acre. There were nine varieties that had yields in excess of 200 bu/A. Test weight averages were about 4 lbs/bu less this year than averages from 1988. Heights were slightly less than both the 1987 and 1988 harvests. Bozeman yield data was also very good, the mean almost being equal to last year's mean ( 2 bu/a less than 1988 and 6 bu/A above the 1987 mean yields ). Test weights varied similarly to the Kalispell weights with the 1989 test weights averaging 4 lbs/bu less than the previous season. Heights were about the same. Sidney's data this year looked very good in comparison to last year's yield data that was affected by the drought. Agronomic data was still below average ( 20 bu/a lower than 1987 in yield, 3 lbs/bu less in test weight ). Heading dates for this and other nurseries were 9 to 20 days later depending on the location.

Dryland -  
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Yields, although much better than the previous season of 1987, were 20 - 50% below the average for dryland locations. Havre had yields that were two times the 1988 yields yet 20 bu/A less than 1987 yields. Test weights were about the same as 1987.

Height was much less in this location in comparison to previous years. Sidney yields were good in comparison to 1988 but 30-50% less than 1987 yields from recrop of fallow nurseries. Height data at Sidney was equal to 1988 yet 30-50% less than the 1987 observations. Huntley yield data was greater than the 1988 data but still about 42% less when averages are compared with 1987. Test weights for Huntley were the same in 1989 as in 1988 but less than the 1987 averages by about 2 lbs/bu. Heading dates varied by 2 to 20 days depending on location.

#### FUTURE PLANS:

Variety evaluation will continue in the future. Dr Blake has discussed with Vern Stewart the possibility of an oat breeding program.

Summary of Yield data from the Uniform Northwestern Oat nursery  
grown under dryland conditions in Montana in 1989. (bushels/ac)

ID #	Variety	Havre	Havre Fallow	Sidney	Sidney Recrop	Huntley	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	47.02	42.76	30.73	21.69	44.20	37.3	0.75	0.98
83AB3250	Cayuse/Monida	50.49	41.91	27.10	18.91	49.91	37.7	0.97	0.94
83AB3725	74Ab1952/74Ab2608	53.69	54.39	34.57	23.57	52.10	43.7	0.98	0.99
CI 6611	Park	51.18	40.50	26.90	16.32	47.16	36.4	1.00	0.94
CI 8263	Cayuse	52.37	60.86	38.07	25.79	51.58	45.7	0.94	0.92
CI 9252	Otana	48.92	42.55	32.40	24.79	45.10	38.8	0.69	0.96
CI 9297	Appaloosa	48.55	47.14	34.43	26.23	47.45	40.8	0.71	1.00
CI 9401	Ogle	50.76	47.00	42.43	27.16	58.05	45.1	0.73	0.80
CI467882	Border	50.36	59.03	29.53	23.63	55.80	43.7	1.10	0.94
CI483126	Monida (ID 751170)	52.16	53.85	29.50	21.54	50.85	41.6	1.06	1.00
ID 75861	Cayuse/Otana	68.69	67.96	35.87	23.07	54.22	50.0	1.38	0.94
ID 80988	74AB1952/74AB2608	44.63	52.57	23.53	16.72	47.60	37.0	1.10	0.96
ID 82248	Cayuse/Monida	55.48	64.23	28.87	22.82	45.14	43.3	1.14	0.85
ID742608	Cayuse/Otana	49.34	50.23	20.40	14.63	50.68	37.1	1.26	0.98
ID804725	Cayuse/74/AB1956	53.13	44.68	38.53	24.45	55.80	43.3	0.82	0.85
ID805322	Border74AB1956	56.03	55.63	25.90	18.16	52.03	41.5	1.28	0.99
ID805807	74AB2608/Cayuse	62.41	65.99	31.13	23.26	54.93	47.5	1.33	0.96
ID815792	74Ab2608/Cayuse	52.29	65.84	43.70	29.85	67.22	51.8	1.01	0.83
ID821142	74ab1952/74ab2608	54.39	54.86	31.83	23.57	51.05	43.1	1.02	0.99
ID821178	74AB1952/75AB1576	48.63	51.58	35.33	24.54	50.91	42.2	0.83	0.97
ND820603	Froker/RL 3038/2/Hud	56.04	57.83	29.77	22.41	54.10	44.0	1.17	0.99
NP871742	Ogle/OT 32-15, Sel.	51.44	46.85	36.87	24.38	46.56	41.2	0.74	0.94
NPB86575	Ogle/OT 32-15, Sel.	45.94	46.87	32.67	24.38	51.16	40.2	0.78	0.96
NPB86586	Ogle/OT 3215 Sel. 85	52.72	42.70	37.77	26.20	54.10	42.7	0.74	0.83
NPB86801	Ogle/OT 32-15, Sel.	56.47	49.49	21.27	18.47	52.66	39.7	1.27	0.96
OT 308	Calibre	55.38	48.73	18.00	11.03	43.70	35.4	1.36	0.96
SD810109	Trucker (Moore//Dal/	49.99	52.99	35.00	24.66	50.60	42.6	0.87	0.99
W 78286	Dumont	51.29	44.10	24.93	15.13	48.62	36.8	1.12	0.98
W 80474	Riel (RL 3057/Otana)	51.65	45.00	30.43	21.73	43.99	38.6	0.84	0.95
W 82056	Robert (OT 212/RL 30	48.76	49.30	27.70	19.91	48.53	38.8	0.99	1.00
*****	SITE MEAN *****	52.34	51.58	31.17	21.97	50.86	41.6	1.00	1.00
	F-value	1.35	2.19	7.45	12.40	2.58			
	C. V. (S/Mean*100)	13.45	17.73	12.62	9.40	10.40			
	L.S.D. (.05)	11.50	14.94	6.43	3.38	8.65			

Summary of Test Weight data from the Uniform Northwestern Oat nursery grown under dryland conditions in Montana in 1989. (lbs/bu)

ID #	Variety	Havre Fallow	Havre	Sidney Recrop	Sidney	Huntley	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	33.60	27.03	34.30	26.50	27.27	29.7	0.95	0.42
83AB3250	Cayuse/Monida	32.60	28.80	25.50	20.00	26.23	26.6	1.67	0.90
83AB3725	74Ab1952/74Ab2608	34.40	28.43	37.50	29.00	27.70	31.4	0.78	0.23
CI 6611	Park	34.67	31.93	27.00	24.50	28.23	29.3	1.44	0.87
CI 8263	Cayuse	31.43	27.27	27.50	24.50	24.37	27.0	1.06	0.93
CI 9252	Otana	35.30	32.17	30.50	28.00	30.17	31.2	1.02	0.98
CI 9297	Appaloosa	31.23	26.03	27.50	24.50	24.00	26.7	1.01	0.84
CI 9401	Ogle	31.07	27.70	32.00	29.00	28.37	29.6	0.28	0.16
CI467882	Border	32.40	29.17	27.50	24.00	27.20	28.1	1.15	0.97
CI483126	Monida (ID 751170)	33.10	32.73	29.50	25.50	27.20	29.6	1.17	0.84
ID 75861	Cayuse/Otana	32.70	28.43	28.00	24.50	31.17	29.0	0.89	0.55
ID 80988	74AB1952/74AB2608	33.80	30.03	36.90	24.50	26.97	30.4	1.28	0.45
ID 82248	Cayuse/Monida	32.87	32.17	24.00	23.50	25.33	27.6	1.47	0.71
ID742608	Cayuse/Otana	33.73	32.00	22.40	21.00	27.97	27.4	1.73	0.65
ID804725	Cayuse/74/AB1956	34.33	27.47	29.50	28.50	26.83	29.3	0.89	0.62
ID805322	Border74AB1956	33.13	29.60	30.00	24.00	26.93	28.7	1.26	0.93
ID805807	74AB2608/Cayuse	35.00	29.87	28.10	27.00	26.63	29.3	1.24	0.91
ID815792	74Ab2608/Cayuse	31.70	28.27	30.50	29.00	24.67	28.8	0.60	0.34
ID821142	74ab1952/74ab2608	33.43	29.83	31.00	29.00	27.23	30.1	0.74	0.71
ID821178	74AB1952/75AB1576	31.97	29.07	33.50	31.50	27.80	30.8	0.19	0.05
ND820603	Froker/RL 3038/2/Hud	35.10	34.37	31.20	30.00	32.47	32.6	0.71	0.76
NP871742	Ogle/OT 32-15, Sel.	29.47	27.00	30.00	28.50	27.97	28.6	0.12	0.07
NPB86575	Ogle/OT 32-15, Sel.	30.47	27.33	30.00	27.50	26.70	28.4	0.45	0.48
NPB86586	Ogle/OT 3215 Sel. 85	30.00	25.50	30.00	26.50	26.97	27.8	0.43	0.29
NPB86801	Ogle/OT 32-15, Sel.	31.67	26.77	21.40	23.00	28.27	26.2	1.06	0.46
OT 308	Calibre	36.73	35.77	23.20	21.00	28.33	29.0	2.23	0.67
SD810109	Trucker (Moore//Dal/	39.53	37.10	35.50	35.00	33.73	36.2	0.77	0.82
W 78286	Dumont	35.03	35.13	26.50	23.50	29.87	30.0	1.60	0.66
W 80474	Riel (RL 3057/Otana)	37.00	35.53	30.50	33.50	31.67	33.6	0.67	0.43
W 82056	Robert (OT 212/RL 30	34.77	33.43	28.30	26.50	30.30	30.7	1.15	0.77
*****	SITE MEAN *****	33.41	30.20	29.31	26.43	27.95	29.5	1.00	1.00

F-value	14.82	13.97	—	—	3.82
C. V. (S/Mean*100)	2.95	4.91	—	—	7.24
L.S.D. (.05)	1.61	2.42	—	—	3.31

Summary of Plant Height data from the Uniform Northwestern Oat nursery grown under dryland conditions in Montana in 1989. (inches)

ID #	Variety	Havre	Havre Fallow	Sidney	Sidney Recrop	Huntley	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	17.87	16.82	14.33	14.33	30.00	18.7	1.48	0.75
83AB3250	Cayuse/Monida	19.46	16.94	14.33	14.67	24.00	17.9	1.01	0.93
83AB3725	74Ab1952/74Ab2608	20.14	19.67	15.33	15.00	22.00	18.4	0.80	0.96
CI 6611	Park	25.66	21.76	20.00	17.67	27.00	22.4	0.99	0.95
CI 8263	Cayuse	24.19	22.24	18.67	16.33	28.00	21.9	1.19	0.98
CI 9252	Otana	27.59	25.26	22.67	19.67	31.00	25.2	1.13	0.97
CI 9297	Appaloosa	23.66	19.97	18.67	17.00	26.00	21.1	0.94	0.95
CI 9401	Ogle	25.97	25.10	19.33	18.33	28.50	23.4	1.14	0.97
CI467882	Border	22.94	20.60	15.33	16.33	24.50	19.9	1.03	0.96
CI483126	Monida (ID 751170)	25.80	21.00	17.67	17.33	29.00	22.2	1.32	0.97
ID 75861	Cayuse/Otana	23.56	20.30	17.33	15.67	27.00	20.8	1.20	0.99
ID 80988	74AB1952/74AB2608	17.76	15.98	12.67	13.00	20.00	15.9	0.82	0.99
ID 82248	Cayuse/Monida	21.55	18.57	14.33	14.67	23.00	18.4	1.02	0.98
ID742608	Cayuse/Otana	22.41	18.19	16.67	14.33	23.00	18.9	0.94	0.92
ID804725	Cayuse/74/AB1956	20.21	17.35	14.67	13.67	21.00	17.4	0.84	0.97
ID805322	Border74AB1956	19.12	16.96	15.00	14.33	20.00	17.1	0.64	0.97
ID805807	74AB2608/Cayuse	22.32	20.75	14.33	16.00	24.50	19.6	1.09	0.94
ID815792	74Ab2608/Cayuse	22.02	21.61	16.67	16.33	25.50	20.4	1.01	0.98
ID821142	74ab1952/74ab2608	17.27	16.64	13.00	13.00	22.00	16.4	0.95	0.95
ID821178	74AB1952/75AB1576	19.89	18.32	15.67	14.00	23.00	18.2	0.92	0.98
ND820603	Froker/RL 3038/2/Hud	23.96	20.93	18.33	16.67	26.00	21.2	1.00	0.98
NP871742	Ogle/OT 32-15, Sel.	17.61	16.44	13.33	13.33	20.00	16.1	0.75	0.99
NPB86575	Ogle/OT 32-15, Sel.	18.81	17.05	13.00	12.67	19.00	16.1	0.78	0.93
NPB86586	Ogle/OT 3215 Sel. 85	17.51	16.26	14.33	12.67	20.00	16.2	0.73	0.97
NPB86801	Ogle/OT 32-15, Sel.	19.51	16.40	13.67	14.00	19.50	16.6	0.72	0.93
OT 308	Calibre	29.86	27.64	20.67	19.33	29.50	25.4	1.24	0.89
SD810109	Trucker (Moore//Dal/	27.76	28.31	22.33	21.33	34.00	26.7	1.30	0.94
W 78286	Dumont	26.73	25.76	20.00	18.33	29.00	24.0	1.18	0.96
W 80474	Riel (RL 3057/Otana)	25.60	23.37	20.00	19.67	26.00	22.9	0.77	0.96
W 82056	Robert (OT 212/RL 30	24.61	22.98	17.67	18.00	27.00	22.1	1.07	0.98
*****	SITE MEAN *****	22.38	20.31	16.67	15.92	24.97	20.1	1.00	1.00

F-value	20.26	13.56	10.53	8.47	—
C. V. (S/Mean*100)	6.07	8.22	9.20	8.81	—
L.S.D. (.05)	2.22	2.73	2.51	2.29	—

Summary of Heading date from the Uniform Northwestern Oat nursery grown under dryland conditions in Montana in 1989. (Days from Jan 1)

ID #	Variety	Sidney	Sidney Recrop	Huntley	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	179.33	178.67	183.00	180.3	0.83	1.00
83AB3250	Cayuse/Monida	179.67	178.33	184.00	180.7	1.06	1.00
83AB3725	74Ab1952/74Ab2608	178.00	177.67	182.00	179.2	0.86	0.99
CI 6611	Park	179.00	178.33	182.00	179.8	0.70	1.00
CI 8263	Cayuse	177.67	175.33	180.00	177.7	0.78	0.88
CI 9252	Otana	178.67	177.00	183.00	179.6	1.10	0.99
CI 9297	Appaloosa	179.00	177.33	184.00	180.1	1.24	1.00
CI 9401	Ogle	173.00	174.67	175.00	174.2	0.18	0.23
CI467882	Border	178.67	177.67	184.00	180.1	1.21	1.00
CI483126	Monida (ID 751170)	178.67	177.33	181.00	179.0	0.65	0.96
ID 75861	Cayuse/Otana	178.33	177.33	183.00	179.6	1.08	1.00
ID 80988	74AB1952/74AB2608	178.00	177.67	182.00	179.2	0.86	0.99
ID 82248	Cayuse/Monida	179.67	178.67	184.00	180.8	1.01	1.00
ID742608	Cayuse/Otana	179.00	179.00	184.00	180.7	1.01	0.97
ID804725	Cayuse/74/AB1956	177.67	176.67	184.00	179.4	1.42	1.00
ID805322	Border74AB1956	179.33	179.00	184.00	180.8	0.99	0.99
ID805807	74AB2608/Cayuse	177.67	176.67	183.00	179.1	1.21	1.00
ID815792	74Ab2608/Cayuse	175.33	174.67	178.00	176.0	0.63	1.00
ID821142	74ab1952/74ab2608	177.67	176.67	181.00	178.4	0.81	1.00
ID821178	74AB1952/75AB1576	177.33	176.00	181.00	178.1	0.92	0.99
ND820603	Froker/RL 3038/2/Hud	177.00	175.67	181.00	177.9	0.99	1.00
NP871742	Ogle/OT 32-15, Sel.	178.33	177.67	184.00	180.0	1.24	1.00
NPB86575	Ogle/OT 32-15, Sel.	178.00	177.33	184.00	179.8	1.31	1.00
NPB86586	Ogle/OT 3215 Sel. 85	176.67	175.33	184.00	178.7	1.66	1.00
NPB86801	Ogle/OT 32-15, Sel.	178.67	178.00	185.00	180.6	1.37	0.99
OT 308	Calibre	178.67	178.33	182.00	179.7	0.72	0.99
SD810109	Trucker (Moore//Dal/	174.33	172.67	178.00	175.0	0.96	0.98
W 78286	Dumont	179.00	177.33	183.00	179.8	1.03	0.98
W 80474	Riel (RL 3057/Otana)	177.33	176.00	181.00	178.1	0.92	0.99
W 82056	Robert (OT 212/RL 30	178.33	176.00	183.00	179.1	1.26	0.98
*****	SITE MEAN *****	177.93	176.97	182.23	179.0	1.00	1.00

F-value	17.52	10.12	—
C. V. (S/Mean*100)	0.35	0.45	—
L.S.D. (.05)	1.01	1.31	—

Summary of Yield from the Uniform Northwestern Oat nursery  
grown under irrigated conditions or high moisture in Montana  
in 1989. (Bu/ac)

ID #	Variety	Kalispell	Bozeman	Sidney	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	209.20	168.25	122.30	166.6	1.56	0.99
83AB3250	Cayuse/Monida	232.20	173.48	153.07	186.2	1.46	0.97
83AB3725	74Ab1952/74Ab2608	184.97	143.58	142.33	157.0	0.80	0.84
CI 6611	Park	167.07	156.53	128.43	150.7	0.68	0.89
CI 8263	Cayuse	172.80	167.03	132.07	157.3	0.71	0.79
CI 9252	Otana	182.90	169.20	125.93	159.3	1.00	0.87
CI 9297	Appaloosa	201.87	163.18	138.13	167.7	1.16	1.00
CI 9401	Ogle	173.40	147.13	127.63	149.4	0.83	1.00
CI467882	Border	188.97	177.30	143.67	170.0	0.80	0.88
CI483126	Monida (ID 751170)	200.63	177.13	138.80	172.2	1.10	0.95
ID 75861	Cayuse/Otana	205.37	164.63	136.27	168.8	1.25	1.00
ID 80988	74AB1952/74AB2608	196.10	148.03	151.57	165.2	0.85	0.77
ID 82248	Cayuse/Monida	203.50	174.65	149.80	176.0	0.97	1.00
ID742608	Cayuse/Otana	191.87	174.45	146.27	170.9	0.81	0.95
ID804725	Cayuse/74/AB1956	172.70	145.83	116.37	145.0	1.01	0.99
ID805322	Border74AB1956	200.67	173.03	145.00	172.9	1.00	0.99
ID805807	74AB2608/Cayuse	200.67	153.25	137.10	163.7	1.17	0.96
ID815792	74Ab2608/Cayuse	215.37	157.55	140.40	171.1	1.38	0.95
ID821142	74ab1952/74ab2608	198.73	139.18	114.43	150.8	1.55	0.98
ID821178	74AB1952/75AB1576	187.80	132.10	108.43	142.8	1.46	0.98
ND820603	Froker/RL 3038/2/Hud	171.60	147.68	126.77	148.7	0.81	1.00
NP871742	Ogle/OT 32-15, Sel.	156.03	131.45	110.33	132.6	0.83	1.00
NPB86575	Ogle/OT 32-15, Sel.	148.60	126.25	144.07	139.6	0.12	0.08
NPB86586	Ogle/OT 3215 Sel. 85	152.17	121.90	116.90	130.3	0.66	0.91
NPB86801	Ogle/OT 32-15, Sel.	170.80	126.00	114.93	137.2	1.03	0.93
OT 308	Calibre	195.47	165.83	127.93	163.1	1.21	0.98
SD810109	Trucker (Moore//Dal/	159.40	146.63	108.70	138.2	0.89	0.87
W 78286	Dumont	184.40	166.00	113.23	154.5	1.25	0.88
W 80474	Riel (RL 3057/Otana)	191.37	153.50	134.20	159.7	1.04	0.99
W 82056	Robert (OT 212/RL 30	176.60	155.48	142.07	158.0	0.63	1.00
*****	SITE MEAN *****	186.44	154.87	131.24	157.5	1.00	1.00

F-value	2.99	9.81	17.76
C. V. (S/Mean*100)	10.50	6.80	13.53
L.S.D. (.05)	32.00	14.80	29.02

Summary of Test Weight from the Uniform Northwestern Oat nursery grown under irrigated or high moisture conditions in Montana in 1989. (lb/bu)

ID #	Variety	Kalispell	Bozeman	Sidney	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	34.20	37.10	35.00	35.4	0.82	0.54
83AB3250	Cayuse/Monida	34.37	35.80	37.50	35.9	0.97	0.68
83AB3725	74Ab1952/74Ab2608	35.87	36.40	39.00	37.1	0.76	0.37
CI 6611	Park	34.73	37.00	36.00	35.9	0.78	0.83
CI 8263	Cayuse	32.63	35.80	35.50	34.6	1.31	1.00
CI 9252	Otana	38.03	39.10	37.00	38.0	0.03	0.00
CI 9297	Appaloosa	32.17	35.10	33.50	33.6	0.94	0.73
CI 9401	Ogle	33.73	35.40	37.50	35.5	1.15	0.66
CI467882	Border	33.83	35.70	36.50	35.3	0.97	0.90
CI483126	Monida (ID 751170)	34.57	38.00	37.00	36.5	1.28	0.94
ID 75861	Cayuse/Otana	35.40	37.50	35.50	36.1	0.50	0.32
ID 80988	74AB1952/74AB2608	33.77	36.80	36.50	35.7	1.25	1.00
ID 82248	Cayuse/Monida	33.90	35.80	35.50	35.1	0.76	0.99
ID742608	Cayuse/Otana	34.80	37.40	37.50	36.6	1.14	0.99
ID804725	Cayuse/74/AB1956	35.43	36.30	37.00	36.2	0.52	0.78
ID805322	Border74AB1956	35.07	36.90	37.50	36.5	0.91	0.93
ID805807	74AB2608/Cayuse	35.03	37.00	38.00	36.7	1.06	0.88
ID815792	74Ab2608/Cayuse	35.73	37.40	38.50	37.2	0.95	0.83
ID821142	74ab1952/74ab2608	34.80	36.90	35.50	35.7	0.62	0.60
ID821178	74AB1952/75AB1576	35.13	37.30	36.50	36.3	0.77	0.88
ND820603	Froker/RL 3038/2/Hud	37.40	39.20	39.50	38.7	0.84	0.98
NP871742	Ogle/OT 32-15, Sel.	29.17	33.40	34.50	32.4	2.05	0.95
NPB86575	Ogle/OT 32-15, Sel.	28.40	33.90	35.50	32.6	2.70	0.94
NPB86586	Ogle/OT 3215 Sel. 85	29.20	34.20	34.00	32.5	2.12	1.00
NPB86801	Ogle/OT 32-15, Sel.	30.83	35.30	36.00	34.0	2.07	0.97
OT 308	Calibre	37.07	38.30	37.00	37.5	0.26	0.23
SD810109	Trucker (Moore//Dal/	40.10	41.00	38.50	39.9	-0.12	0.02
W 78286	Dumont	36.67	38.10	36.50	37.1	0.29	0.19
W 80474	Riel (RL 3057/Otana)	36.60	39.20	39.50	38.4	1.18	0.98
W 82056	Robert (OT 212/RL 30	35.10	37.00	38.50	36.9	1.13	0.78
*****	SITE MEAN *****	34.46	36.81	36.73	36.0	1.00	1.00

F-value	18.55	—	—
C. V. (S/Mean*100)	3.01	—	—
L.S.D. (.05)	1.69	—	—

Summary of Heading date from the Uniform Northwestern Oat nursery grown under irrigated or high moisture conditions in Montana in 1989. (days from Jan 1)

ID #	Variety	Kalispell	Bozeman	Sidney	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	180.00	191.25	191.33	187.5	1.18	0.97
83AB3250	Cayuse/Monida	182.33	192.25	190.00	188.2	0.96	1.00
83AB3725	74Ab1952/74Ab2608	179.33	189.25	187.33	185.3	0.97	1.00
CI 6611	Park	180.00	190.00	187.00	185.7	0.94	0.99
CI 8263	Cayuse	178.67	189.25	187.33	185.1	1.04	1.00
CI 9252	Otana	179.33	190.25	187.00	185.5	1.02	0.98
CI 9297	Appaloosa	180.67	190.75	189.33	186.9	1.00	1.00
CI 9401	Ogle	177.67	187.00	181.00	181.9	0.76	0.77
CI467882	Border	180.33	191.00	188.67	186.7	1.03	1.00
CI483126	Monida (ID 751170)	180.00	190.25	187.00	185.8	0.96	0.99
ID 75861	Cayuse/Otana	180.00	191.00	189.00	186.7	1.08	1.00
ID 80988	74AB1952/74AB2608	179.00	190.50	189.67	186.4	1.17	0.98
ID 82248	Cayuse/Monida	182.33	192.00	190.67	188.3	0.96	0.99
ID742608	Cayuse/Otana	181.67	191.75	190.33	187.9	1.00	1.00
ID804725	Cayuse/74/AB1956	179.67	189.00	188.33	185.7	0.95	0.99
ID805322	Border74AB1956	181.33	192.50	191.00	188.3	1.11	0.99
ID805807	74AB2608/Cayuse	179.33	190.75	188.67	186.2	1.12	1.00
ID815792	74Ab2608/Cayuse	177.67	188.25	183.33	183.1	0.93	0.91
ID821142	74ab1952/74ab2608	179.00	189.75	188.33	185.7	1.07	0.99
ID821178	74AB1952/75AB1576	178.00	189.00	186.67	184.6	1.07	1.00
ND820603	Froker/RL 3038/2/Hud	178.67	189.75	187.00	185.1	1.06	1.00
NP871742	Ogle/OT 32-15, Sel.	183.33	190.50	192.00	188.6	0.80	0.88
NPB86575	Ogle/OT 32-15, Sel.	180.67	189.75	190.33	186.9	0.97	0.95
NPB86586	Ogle/OT 3215 Sel. 85	179.33	188.50	186.00	184.6	0.87	0.99
NPB86801	Ogle/OT 32-15, Sel.	182.00	190.75	192.00	188.2	0.96	0.92
OT 308	Calibre	179.00	191.00	190.00	186.7	1.22	0.99
SD810109	Trucker (Moore//Dal/	177.67	187.75	182.00	182.5	0.85	0.83
W 78286	Dumont	179.00	190.75	187.33	185.7	1.11	0.99
W 80474	Riel (RL 3057/Otana)	178.67	187.25	185.33	183.8	0.83	1.00
W 82056	Robert (OT 212/RL 30	180.00	190.75	188.33	186.4	1.04	1.00
*****	SITE MEAN *****	179.82	190.08	188.08	186.0	1.00	1.00

F-value	12.50	8.80	18.37
C. V. (S/Mean*100)	0.40	0.49	0.58
L.S.D. (.05)	1.17	1.32	1.78

Summary of Plant Height from the Uniform Northwestern Oat nursery grown under irrigated or high moisture conditions in Montana in 1989. (inches)

ID #	Variety	Kalispell	Bozeman	Sidney	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	28.74	28.25	31.00	29.3	0.22	0.05
83AB3250	Cayuse/Monida	33.86	31.89	34.33	33.4	0.70	0.63
83AB3725	74Ab1952/74Ab2608	31.10	27.95	33.00	30.7	1.14	0.43
CI 6611	Park	43.70	38.68	38.00	40.1	1.64	0.60
CI 8263	Cayuse	39.50	36.61	38.00	38.0	0.98	1.00
CI 9252	Otana	45.14	39.76	40.00	41.6	1.77	0.74
CI 9297	Appaloosa	36.61	34.25	36.67	35.8	0.82	0.77
CI 9401	Ogle	38.19	33.96	32.67	34.9	1.36	0.48
CI467882	Border	35.83	35.14	37.00	36.0	0.26	0.17
CI483126	Monida (ID 751170)	41.73	37.80	37.67	39.1	1.29	0.68
ID 75861	Cayuse/Otana	37.27	34.74	35.67	35.9	0.85	0.96
ID 80988	74AB1952/74AB2608	29.13	27.56	30.67	29.1	0.58	0.30
ID 82248	Cayuse/Monida	32.15	31.99	34.00	32.7	0.09	0.01
ID742608	Cayuse/Otana	34.51	34.94	34.00	34.5	-0.16	0.25
ID804725	Cayuse/74/AB1956	29.53	27.46	30.33	29.1	0.74	0.54
ID805322	Border74AB1956	30.18	29.43	34.00	31.2	0.34	0.04
ID805807	74AB2608/Cayuse	34.65	32.87	35.00	34.2	0.63	0.66
ID815792	74Ab2608/Cayuse	36.88	32.28	34.33	34.5	1.55	0.98
ID821142	74ab1952/74ab2608	29.00	25.49	26.67	27.1	1.18	0.95
ID821178	74AB1952/75AB1576	29.27	26.38	28.33	28.0	0.99	0.98
ND820603	Froker/RL 3038/2/Hud	35.83	33.96	35.00	34.9	0.64	1.01
NP871742	Ogle/OT 32-15, Sel.	24.80	22.64	25.33	24.3	0.76	0.62
NPB86575	Ogle/OT 32-15, Sel.	25.33	22.93	26.33	24.9	0.86	0.52
NPB86586	Ogle/OT 3215 Sel. 85	24.67	22.34	25.67	24.2	0.83	0.51
NPB86801	Ogle/OT 32-15, Sel.	26.90	23.13	27.00	25.7	1.32	0.78
OT 308	Calibre	46.19	40.35	40.33	42.3	1.92	0.70
SD810109	Trucker (Moore//Dal/	43.04	37.50	34.00	38.2	1.75	0.32
W 78286	Dumont	43.96	38.39	39.00	40.4	1.84	0.79
W 80474	Riel (RL 3057/Otana)	42.91	37.70	39.00	39.9	1.74	0.89
W 82056	Robert (OT 212/RL 30	41.60	37.50	39.00	39.4	1.38	0.96
*****	SITE MEAN *****	35.07	32.13	33.73	33.6	1.00	1.00

F-value	65.67	108.33	19.07
C. V. (S/Mean*100)	3.97	3.32	5.30
L.S.D. (.05)	2.28	1.50	2.92

Summary of Lodging Index from the Uniform Northwestern Oat nursery grown under irrigated or high moisture conditions in Montana in 1989. (percent)

ID #	Variety	Kalispell	Sidney	Avg	BYX	RSQ
83AB3119	Cayuse/76Ab6843	0.00	0.73	0.7	0.00	0.00
83AB3250	Cayuse/Monida	0.00	7.20	7.2	0.00	0.00
83AB3725	74Ab1952/74Ab2608	0.00	2.93	2.9	0.00	0.00
CI 6611	Park	27.97	9.70	18.8	87.42	1.00
CI 8263	Cayuse	31.67	6.23	19.0	121.72	1.00
CI 9252	Otana	1.47	26.67	14.1	-120.6	1.00
CI 9297	Appaloosa	10.00	18.13	14.1	-38.90	1.00
CI 9401	Ogle	0.00	12.23	12.2	0.00	0.00
CI467882	Border	0.00	25.53	25.5	0.00	0.00
CI483126	Monida (ID 751170)	19.43	26.67	23.1	-34.64	1.00
ID 75861	Cayuse/Otana	0.00	24.73	24.7	0.00	0.00
ID 80988	74AB1952/74AB2608	0.00	0.00	0.0	0.00	0.00
ID 82248	Cayuse/Monida	0.00	10.83	5.4	0.00	0.00
ID742608	Cayuse/Otana	0.00	18.03	9.0	0.00	0.00
ID804725	Cayuse/74/AB1956	0.00	0.00	0.0	0.00	0.00
ID805322	Border74AB1956	0.00	0.73	0.4	0.00	0.00
ID805807	74AB2608/Cayuse	0.00	1.67	0.8	0.00	0.00
ID815792	74Ab2608/Cayuse	0.00	2.20	1.1	0.00	0.00
ID821142	74ab1952/74ab2608	0.00	0.00	0.0	0.00	0.00
ID821178	74AB1952/75AB1576	0.00	0.00	0.0	0.00	0.00
ND820603	Froker/RL 3038/2/Hud	0.00	6.70	3.4	0.00	0.00
NP871742	Ogle/OT 32-15, Sel.	0.00	0.00	0.0	0.00	0.00
NPB86575	Ogle/OT 32-15, Sel.	0.00	0.00	0.0	0.00	0.00
NPB86586	Ogle/OT 3215 Sel. 85	0.00	0.00	0.0	0.00	0.00
NPB86801	Ogle/OT 32-15, Sel.	0.00	0.00	0.0	0.00	0.00
OT 308	Calibre	8.53	27.23	17.9	-89.47	1.00
SD810109	Trucker (Moore//Dal/	1.87	8.87	5.4	-33.49	1.00
W 78286	Dumont	11.50	50.00	30.8	-184.2	1.00
W 80474	Riel (RL 3057/Otana)	0.00	15.30	7.7	0.00	0.00
W 82056	Robert (OT 212/RL 30	0.00	2.30	1.1	0.00	0.00
*****	SITE MEAN *****	3.75	10.15	—	—	—

F-value	1.21	6.44
C. V. (S/Mean*100)	353.70	82.02
L.S.D. (.05)	21.67	13.61