

Table 1. 2010 Havre, MT (Exp. 3502) Intrastate Winter Wheat Nursery - Mill & Bake and Noodle Data

VARIETY	CLASS	PPO	Single Kernel Hardness	Wheat protein, % (12 m.b.)	Flour Yield %	Flour Protein%(14%am.b)	Flour Color			Wheat Ash, %	Flour Ash, %	Type	Mixograph			Test Bake			Crumb Grain Score
							L*brightness	A*green-red	B*blue-yellow				Tolerance	Mixing Time Min	Water Absorption%	Mixing Time Min	Water Absorption%	Loaf Volume	
Accipiter	HRW		82.6	10.3	61.9	8.9	90.5	-1.36	9.7	1.37	0.42	M	4	5.6	57.2	9.7	67.4	940	8
AP 503 CL2	HRW		74.0	12.6	65.0	10.8	90.6	-1.45	10.2	1.57	0.41	M	4	5.6	61.9	8.1	71.6	1155	8
Art	HRW		79.7	12.3	65.0	10.4	90.7	-1.98	12.3	1.62	0.40	M	3	3.7	56.9	4.6	66.6	900	2
Bearpaw	HRW		87.8	11.5	65.8	9.9	90.6	-1.73	11.2	1.48	0.40	M	4	6.0	57.5	7.3	67.7	925	7
Boomer	HRW		81.0	11.8	63.5	10.3	90.5	-1.52	10.5	1.68	0.42	M	3	4.7	58.8	5.8	68.5	980	8
Broadview	HRW		71.8	11.3	63.2	9.8	91.1	-1.52	9.8	1.65	0.42	M	3	3.6	58.5	4.2	67.7	965	1
CDC Falcon	HRW		76.1	11.0	64.0	9.5	91.3	-1.36	9.4	1.51	0.41	LM	4	5.9	57.0	8.7	66.7	925	8
Curlew	HRW		78.4	12.0	66.4	10.6	90.6	-2.01	12.6	1.57	0.38	M	4	4.4	59.5	7.1	69.7	1075	8
Decade	HRW		79.6	11.3	65.7	9.7	91.1	-1.38	9.4	1.47	0.40	M	6	7.1	59.4	12.9	70.6	990	8
Genou	HRW		90.5	12.2	66.2	11.0	90.5	-1.61	10.4	1.49	0.43	M	4	5.2	62.4	11.6	72.6	940	8
Hyalite (CL)	HWW		79.4	10.8	67.1	9.4	91.0	-1.68	10.6	1.33	0.40	M	4	5.2	57.5	8.0	67.2	915	8
Jagalene	HRW		78.3	11.6	70.3	10.2	90.7	-1.63	11.3	1.47	0.40	M	3	5.5	61.8	12.6	72.5	1000	8
Judee	HRW		81.5	12.4	63.6	10.9	90.5	-1.74	11.7	1.63	0.40	M	4	6.2	60.1	8.7	69.8	1090	8
Ledger	HRW		79.5	11.4	69.9	10.0	90.5	-1.85	12.2	1.53	0.41	M	4	5.5	60.8	12.1	70.5	945	8
MT0866	HRW		74.9	11.5	68.3	10.0	90.9	-1.88	11.3	1.44	0.38	M	4	7.2	63.0	16.9	75.7	980	8
MT0871	HRW		90.3	11.8	67.3	10.4	90.2	-1.75	12.1	1.50	0.42	M	3	5.8	62.0	8.8	71.7	990	6
MTS04114	HWW		73.9	11.2	67.6	9.8	90.8	-1.86	11.7	1.36	0.38	LM	4	5.3	58.1	8.0	67.8	980	7
MTS04114L	HWW		68.3	12.9	67.4	11.3	90.8	-1.73	11.1	1.43	0.37	M	4	5.1	60.6	9.3	70.8	1080	8
MTS0532	HWW		70.3	11.4	66.1	10.0	90.9	-1.85	11.7	1.56	0.39	M	5	5.5	59.7	11.2	69.9	1010	8
MTS0532L	HWW		73.3	12.2	66.4	10.7	91.0	-1.70	10.9	1.49	0.38	M	4	5.5	61.8	12.1	73.0	1035	7
MTS0808	HRW		96.1	11.7	64.7	10.3	90.2	-1.80	12.0	1.49	0.42	M	5	5.3	59.9	7.0	70.1	985	8
MTS0819	HRW		87.5	11.5	65.0	10.3	90.7	-2.05	12.4	1.54	0.39	M	4	6.3	59.3	8.4	69.5	995	8
MTS0826	HRW		89.1	10.5	65.9	9.4	90.8	-2.19	12.3	1.34	0.40	M	5	7.4	60.9	16.3	70.6	995	8
MTS0832	HRW		92.3	10.9	65.0	9.7	90.9	-1.88	11.4	1.38	0.40	M	5	7.5	60.3	11.6	71.5	1030	8
Overland	HRW		72.6	11.4	68.2	10.0	90.7	-1.43	10.1	1.55	0.39	M	3	3.4	58.0	4.7	67.7	895	8
Promontory	HRW		74.6	10.8	69.2	9.5	90.3	-2.12	13.2	1.44	0.42	M	3	5.2	59.8	6.3	69.5	975	8
Radiant	HRW		84.2	10.5	66.4	9.4	91.0	-1.79	11.3	1.56	0.40	M	4	6.0	58.0	10.6	67.7	955	8
Rampart	HRW		82.9	12.9	66.5	11.4	90.4	-1.90	12.4	1.56	0.42	M	4	6.3	62.7	11.9	72.4	1040	8
Robidoux	HRW		73.8	11.5	64.6	9.9	90.9	-1.72	11.0	1.55	0.41	M	4	6.8	58.5	9.8	68.2	975	7
Settler CL	HRW		70.8	11.2	66.6	9.4	90.7	-1.48	10.0	1.38	0.39	M	4	5.5	58.2	8.2	67.9	925	7
WB-Matlock	HRW		78.9	11.5	65.3	10.1	90.8	-1.69	11.1	1.50	0.42	M	5	5.7	59.9	8.8	69.6	920	8
WB-Quake	HRW		83.3	10.8	69.6	9.8	91.1	-1.81	11.1	1.35	0.40	M	4	5.6	60.2	10.3	70.4	955	8
Yellowstone	HRW		81.2	11.7	68.2	10.4	90.3	-1.48	10.9	1.55	0.40	LM	4	10.2	62.0	16.5	71.7	945	7
MIN			68.3	10.3	61.9	8.9	90.2	-1.85	9.4	1.33	0.37		3	3.4	56.9	4.2	66.6	895	1
MAX			96.1	12.9	70.3	11.4	91.3	2.19	13.2	1.68	0.43		6	10.2	63.0	16.9	75.7	1155	8
AVG			80.0	11.5	66.2	10.1	90.7	1.44	11.2	1.50	0.40		4.0	5.8	59.8	9.6	69.8	982	7.4

Table 2. 2010Moccasin, MT (Exp. 3507) Intrastate Winter Wheat Nursery - Mill & Bake and Noodle Data

VARIETY	CLASS	PPO	Flour Color									Mixograph				Test Bake			Crumb Grain Score
			Single Kernel Hardness	Wheat protein, % (12 m.b.)	Flour Yield %	Flour Protein%(14%am.b)	L*brightness	A*green-red	B*blue-yellow	Wheat Ash, %	Flour Ash, %	Type	Tolerance	Mixing Time Min	Water Absorption%	Mixing Time Min	Water Absorption%	Loaf Volume	
Accipiter	HRW		79.7	10.6	59.0	8.8	90.8	-1.29	9.7	1.61	0.44	L	5	9.3	57.3	17.5	68.5	920	8
AP 503 CL2	HRW		81.0	11.0	62.4	9.1	90.8	-1.47	10.2	1.46	0.42	LM	4	6.6	58.3	10.9	71.5	935	7
Art	HRW		78.7	11.4	59.6	9.5	90.7	-2.06	12.5	1.78	0.42	LM	2	3.3	57.3	6.0	67.5	775	6
Bearpaw	HRW		90.6	12.3	62.5	10.3	90.8	-1.77	11.6	1.57	0.41	LM	4	7.3	59.9	10.1	71.6	910	7
Boomer	HRW		83.3	11.2	61.0	9.5	90.7	-1.71	10.9	1.71	0.44	LM	5	5.9	58.0	9.9	69.2	900	8
Broadview	HRW		70.9	11.9	61.8	10.5	91.1	-1.55	9.7	1.63	0.41	LM	3	3.6	60.3	4.9	69.5	1010	7
CDC Falcon	HRW		73.5	11.4	59.6	9.5	90.8	-1.30	9.7	1.59	0.46	LM	4	7.7	56.8	11.8	66.5	905	7
Curler	HRW		82.6	10.8	63.8	9.5	90.8	-2.26	13.3	1.59	0.41	LM	4	6.7	58.4	11.0	68.6	990	8
Decade	HRW		78.0	11.3	62.9	9.5	91.4	-1.31	9.2	1.52	0.41	LM	6	8.5	59.4	14.9	71.6	910	8
Genou	HRW		74.8	11.0	60.5	9.6	91.1	-1.74	10.6	1.50	0.43	LM	4	8.0	58.8	12.6	68.5	910	8
Hyalite (CL)	HWW		75.9	10.5	62.4	9.2	91.2	-2.18	12.3	1.49	0.39	L	4	7.9	57.2	13.8	68.9	930	8
Jagalene	HRW		78.6	11.2	65.4	9.7	90.7	-1.79	12.0	1.59	0.41	LM	3	6.4	58.3	10.1	69.5	950	8
Judee	HRW		77.7	11.1	59.3	9.3	90.8	-1.80	11.7	1.64	0.42	LM	4	5.8	57.5	8.6	67.7	950	7
Ledger	HRW		82.7	10.8	67.3	9.3	90.8	-1.98	12.3	1.42	0.41	LM	4	7.5	59.4	16.1	69.6	905	8
MT0866	HRW		80.3	10.7	60.0	9.0	91.3	-2.07	11.5	1.56	0.43	L	5	11.5	58.0	17.4	73.7	860	8
MT0871	HRW		87.4	10.2	62.7	8.9	90.4	-1.99	12.7	1.63	0.45	L	4	7.1	58.1	13.0	69.8	855	7
MTS04114	HWW		68.7	11.1	62.4	9.3	91.2	-1.97	11.4	1.44	0.42	LM	4	6.5	58.0	12.1	71.2	915	7
MTS04114L	HWW		81.1	10.9	62.9	9.3	91.2	-2.14	12.3	1.54	0.40	L	4	8.4	58.0	13.0	67.7	930	8
MTS0532	HWW		74.9	10.7	62.2	9.0	91.2	-2.10	12.1	1.63	0.39	LM	5	8.9	57.7	20.6	70.9	915	8
MTS0532L	HWW		71.1	11.2	62.0	9.5	91.6	-2.04	11.5	1.58	0.40	LM	6	7.7	59.2	16.0	69.9	960	8
MTS0808	HRW		93.8	10.9	66.8	9.7	90.3	-1.89	12.4	1.46	0.48	LM	4	6.9	58.3	11.8	71.5	880	7
MTS0819	HRW		87.1	10.2	60.2	8.7	90.9	-2.18	12.4	1.53	0.42	LM	3	7.9	56.0	14.1	70.7	840	6
MTS0826	HRW		77.8	11.7	60.6	9.9	91.1	-2.40	13.0	1.68	0.43	LM	5	12.7	61.9	21.5	72.6	955	8
MTS0832	HRW		83.9	11.1	61.5	9.6	91.2	-2.16	12.4	1.66	0.42	L	5	9.6	58.2	14.7	70.4	950	7
Overland	HRW		78.7	10.7	66.1	9.1	91.2	-1.61	10.7	1.56	0.42	LM	4	4.9	58.2	5.2	68.4	860	8
Promontory	HRW		80.1	10.2	66.2	8.9	90.9	-2.26	13.7	1.37	0.43	LM	4	6.1	57.5	10.4	68.7	945	7
Radiant	HRW		76.0	10.1	61.6	8.7	91.0	-1.84	11.6	1.57	0.44	L	4	8.7	57.4	14.2	70.6	875	8
Rampart	HRW		78.5	12.4	63.6	10.8	90.8	-2.02	12.6	1.67	0.43	M	4	7.4	60.8	13.6	71.5	1030	8
Robidoux	HRW		76.8	9.8	61.0	8.3	90.8	-1.72	11.2	1.56	0.42	L	4	7.2	54.9	10.9	67.6	825	2
Settler CL	HRW		81.3	10.5	62.7	8.7	91.0	-1.49	10.2	1.54	0.40	LM	4	7.3	56.9	12.1	68.6	855	8
WB-Matlock	HRW		78.1	11.2	62.2	9.6	90.9	-1.81	11.3	1.60	0.44	LM	4	8.9	60.3	13.4	71.5	860	7
WB-Quake	HRW		75.6	11.2	62.8	9.7	91.1	-2.08	11.9	1.52	0.42	LM	4	7.4	60.2	12.1	71.4	915	8
Yellowstone	HRW		84.2	11.1	64.3	9.5	90.4	-1.48	11.2	1.55	0.44	LM	6	8.7	59.9	16.1	72.1	920	7
MIN			68.7	9.8	59.0	8.3	90.3	-1.74	9.2	1.37	0.39		2	3.3	54.9	4.9	66.5	775	2
MAX			93.8	12.4	67.3	10.8	91.6	2.40	13.7	1.78	0.48		6	12.7	61.9	21.5	73.7	1030	8
AVG			79.5	11.0	62.4	9.4	90.9	1.67	11.6	1.57	0.42		4.2	7.5	58.4	12.7	69.9	910	7.3

Table 3. 2010 Huntley, MT (Exp. 3508) Intrastate Winter Wheat Nursery - Mill & Bake and Noodle Data

VARIETY	CLASS	PPO	Single Kernel Hardness	Wheat protein, % (12 m.b.)	Flour Yield %	Flour Protein%(14%am.b)	Flour Color			Wheat Ash, %	Flour Ash, %	Type	Mixograph			Test Bake			Crumb Grain Score
							L*brightness	A*green-red	B*blue-yellow				Tolerance	Mixing Time Min	Water Absorption%	Mixing Time Min	Water Absorption%	Loaf Volume	
Accipiter	HRW		74.5	11.1	62.8	9.4	90.7	0.65	9.5	1.50	0.42		4	6.2	59.2	10.9	69.5	974	8
AP 503 CL2	HRW		71.5	12.2	65.4	10.3	90.6	0.66	9.9	1.52	0.40		3.8	5.2	61.4	8.2	72.1	1081	7.5
Art	HRW		71.1	12.4	64.2	10.3	90.9	0.98	11.8	1.69	0.40		2	3.2	57.7	4.3	67.4	875	5.5
Bearpaw	HRW		77.8	12.1	66.9	10.4	90.6	0.87	10.8	1.52	0.40		3.3	5.5	60.7	7.8	71.2	950	7.5
Boomer	HRW		73.4	11.8	64.3	10.2	90.7	0.77	10.2	1.63	0.42		3.8	4.3	59.6	6.6	69.8	974	7.5
Broadview	HRW		65.6	11.9	64.1	10.4	91.1	0.75	9.4	1.60	0.41		2.5	2.8	59.8	3.7	68.4	984	5
CDC Falcon	HRW		71.0	11.5	63.6	9.7	91.0	-0.05	9.3	1.55	0.42		4	5.8	58.6	9.7	68.4	948	7.3
Curlew	HRW		72.7	12.0	66.8	10.6	90.5	0.98	12.7	1.57	0.39		3.5	4.6	61.0	7.6	70.7	1055	8
Decade	HRW		71.6	12.0	66.1	10.2	91.1	0.68	9.1	1.54	0.39		5.3	6.9	62.0	14.7	72.9	993	7.5
Genou	HRW		75.3	12.0	66.5	10.6	90.8	-0.10	10.2	1.51	0.41		4	5.6	61.4	11.3	71.4	979	8
Hyalite (CL)	HWW		73.5	11.7	66.4	10.0	91.0	0.90	10.8	1.45	0.40		3.8	5.4	60.3	9.3	70.6	968	8
Jagalene	HRW		73.0	11.8	68.9	10.3	90.5	0.79	11.2	1.51	0.40		3.3	5.0	61.6	9.4	72.0	1020	7.8
Judee	HRW		74.4	11.8	63.6	10.1	90.7	0.84	11.4	1.60	0.40		3.8	5.9	59.9	8.2	69.8	1048	7.8
Ledger	HRW		72.4	11.6	70.0	10.0	90.7	-0.01	11.8	1.48	0.40		3.5	5.2	60.7	11.0	70.4	978	7.8
MT0866	HRW		68.8	12.0	66.7	10.2	91.1	0.95	11.0	1.47	0.40		4.3	7.0	62.5	14.2	74.5	994	7.8
MT0871	HRW		82.6	11.7	66.9	10.3	90.2	0.92	11.9	1.54	0.43		3.5	5.4	61.5	8.7	71.8	983	7
MTS04114	HWW		67.9	12.1	66.8	10.4	90.8	0.85	11.3	1.50	0.39		3.8	5.1	61.3	10.1	72.0	1013	7.5
MTS04114L	HWW		68.4	12.7	66.9	11.0	90.8	0.95	11.5	1.51	0.38		3.8	5.7	62.1	10.7	71.9	1060	7.8
MTS0532	HWW		66.2	11.7	66.5	10.1	91.0	0.95	11.4	1.57	0.39		4.3	5.8	60.5	11.4	71.2	1009	7.8
MTS0532L	HWW		65.9	12.2	66.4	10.7	91.0	0.91	10.9	1.56	0.38		3.8	5.6	62.2	11.7	72.8	1030	7.8
MTS0808	HRW		86.8	12.0	66.2	10.6	90.2	0.89	11.6	1.49	0.43		3.8	5.2	61.0	7.7	71.7	1013	7.8
MTS0819	HRW		83.1	11.5	64.3	10.0	90.6	1.07	12.0	1.55	0.39		3.5	6.2	59.7	9.3	71.4	999	7.5
MTS0826	HRW		72.4	11.9	66.8	10.4	90.8	1.15	12.2	1.54	0.40		4	7.4	62.6	16.2	72.7	1028	8
MTS0832	HRW		81.3	11.5	66.1	10.2	90.8	1.01	11.6	1.48	0.40		4.3	6.7	61.2	11.1	72.1	1044	7.3
Overland	HRW		69.8	11.5	67.7	9.9	90.7	0.58	9.6	1.60	0.40		2.8	3.4	59.8	3.9	69.1	911	7.5
Promontory	HRW		73.1	11.2	68.8	9.8	90.7	1.05	12.9	1.46	0.41		3.5	4.8	59.7	7.0	69.9	1018	7.5
Radiant	HRW		73.5	11.4	66.8	9.9	90.9	0.88	11.3	1.54	0.41		3.8	6.0	60.5	11.3	71.3	965	7.8
Rampart	HRW		75.8	13.1	67.9	11.5	90.5	0.87	12.0	1.57	0.41		3.8	5.8	62.7	12.3	72.8	1068	7.8
Robidoux	HRW		68.1	11.3	65.3	9.6	90.9	0.83	10.6	1.59	0.40		3.8	5.7	58.5	8.7	69.0	934	6.3
Settler CL	HRW		69.0	11.4	66.6	9.7	90.8	0.71	9.7	1.48	0.39		4	5.5	60.1	9.6	70.7	938	7.8
WB-Matlock	HRW		70.6	12.2	65.7	10.6	90.8	0.85	10.7	1.56	0.43		4.3	5.6	62.2	9.2	72.4	968	7.8
WB-Quake	HRW		73.8	11.8	68.6	10.5	90.9	0.97	11.2	1.47	0.40		3.8	5.5	62.0	10.5	72.0	1009	8
Yellowstone	HRW		75.5	11.7	67.4	10.1	90.5	-0.80	10.6	1.57	0.41		4.8	7.9	62.2	14.0	72.6	976	7.3
MIN			73.0	11.8	66.3	10.2	90.8	0.74	11.0	1.54	0.40		4	5.5	60.8	9.7	71.1	993	7.5
MAX			65.6	11.1	62.8	9.4	90.2	-0.80	9.1	1.45	0.38		2	2.8	57.7	3.7	67.4	875	5
AVG			86.8	13.1	70.0	11.5	91.1	1.15	12.9	1.69	0.43		5.3	7.9	62.7	16.2	74.5	1081	8

Table 4. 2010 Conrad, MT (Exp. 3518) Intrastate Winter Wheat Nursery - Mill & Bake and Noodle Data

VARIETY	CLASS	PPO	Single Kernel Hardness	Wheat protein, % (12 m.b.)	Flour Yield %	Flour Protein%(14%am.b)	Flour Color			Wheat Ash, %	Flour Ash, %	Type	Mixograph			Test Bake			Crumb Grain Score
							L*brightness	A*green-red	B*blue-yellow				Tolerance	Mixing Time Min	Water Absorption%	Mixing Time Min	Water Absopction%	Loaf Volume	
Accipiter	HRW		64.1	11.4	67.3	9.5	91.1	-1.24	8.9	1.50	0.40	M	4	3.4	60.3	5.3	70.0	970	8
AP 503 CL2	HRW		58.9	12.9	67.0	10.8	90.5	-1.16	9.1	1.55	0.40	M	4	3.3	63.4	5.7	73.6	1105	7
Art	HRW		55.0	13.0	65.9	10.3	90.8	-1.63	11.0	1.74	0.39	LM	1	2.9	57.2	2.7	65.9	910	7
Bearpaw	HRW		58.0	11.9	71.2	10.1	90.8	-1.45	9.9	1.51	0.38	LM	3	3.9	63.1	5.8	72.8	985	8
Boomer	HRW		56.2	12.2	68.0	10.5	90.8	-1.19	9.3	1.51	0.40	M	3	2.8	61.1	3.3	70.8	1000	7
Broadview	HRW		55.9	11.6	66.5	9.9	91.1	-1.26	8.9	1.53	0.39	LM	1	1.8	59.1	1.6	66.8	950	6
CDC Falcon	HRW		60.2	11.6	67.6	9.5	91.0	-1.11	8.6	1.55	0.41	M	4	4.4	59.1	6.9	68.8	935	6
Curler	HRW		57.9	12.7	69.1	11.0	90.3	-1.70	11.7	1.62	0.39	M	2	3.4	63.1	4.4	71.8	1060	8
Decade	HRW		58.9	11.9	68.8	10.1	91.2	-1.22	8.7	1.59	0.38	M	4	5.0	64.7	13.6	74.9	1010	7
Genou	HRW		56.9	12.0	71.5	10.5	90.6	-1.32	9.5	1.49	0.40	M	4	4.5	61.6	10.1	71.8	1025	8
Hyalite (CL)	HWW		62.0	12.4	68.3	10.3	90.7	-1.36	9.7	1.53	0.40	M	4	4.5	63.5	7.2	73.2	1025	8
Jagalene	HRW		56.8	12.1	70.2	10.6	90.3	-1.31	10.5	1.56	0.39	M	3	3.5	63.6	7.2	73.8	1060	7
Judee	HRW		60.6	11.4	67.4	9.6	90.6	-1.53	10.6	1.58	0.39	M	4	4.7	60.2	6.3	69.9	1000	8
Ledger	HRW		56.8	11.7	72.0	9.9	90.9	-1.65	11.1	1.51	0.38	M	3	3.4	60.0	5.6	68.7	1005	7
MT0866	HRW		49.5	13.1	70.6	11.1	90.8	-1.53	10.2	1.54	0.39	M	3	4.4	66.2	8.5	75.9	1045	7
MT0871	HRW		67.5	11.5	69.9	10.2	90.5	-1.45	10.7	1.56	0.40	M	3	3.6	62.2	4.8	71.9	1000	7
MTS04114	HWW		57.1	13.3	70.3	11.5	90.2	-1.36	10.6	1.64	0.38	M	3	3.6	65.3	7.2	75.0	1100	8
MTS04114L	HWW		55.9	13.3	70.1	11.5	90.6	-1.51	11.1	1.55	0.37	M	3	3.9	65.5	8.9	75.2	1080	8
MTS0532	HWW		52.3	11.7	69.6	10.1	90.7	-1.53	10.7	1.58	0.39	M	3	3.5	61.6	5.9	71.3	1050	7
MTS0532L	HWW		54.2	12.6	69.3	11.0	90.9	-1.42	10.3	1.59	0.37	M	2	3.7	64.6	8.1	74.3	1025	8
MTS0808	HRW		67.1	12.5	67.3	10.7	90.3	-1.44	10.4	1.49	0.41	M	3	3.7	62.8	4.6	72.5	1055	8
MTS0819	HRW		75.1	11.6	67.5	10.0	90.7	-1.79	11.3	1.54	0.37	M	4	4.8	62.4	6.4	74.6	1055	8
MTS0826	HRW		56.5	12.0	71.5	10.3	90.9	-1.89	11.2	1.51	0.38	M	2	4.0	63.2	11.0	72.9	1045	8
MTS0832	HRW		68.1	11.4	70.0	10.0	90.9	-1.70	10.9	1.39	0.37	M	3	4.1	63.1	7.2	72.8	1060	7
Overland	HRW		56.0	11.4	68.7	9.5	90.4	-0.55	7.9	1.69	0.40	M	2	2.9	60.5	2.5	69.7	900	8
Promontory	HRW		60.5	11.3	70.6	9.8	90.9	-1.87	11.8	1.51	0.38	M	4	3.7	59.1	4.6	68.8	1070	7
Radiant	HRW		59.8	12.4	71.1	10.5	91.1	-1.67	10.8	1.56	0.39	M	4	4.0	63.9	8.6	73.6	985	8
Rampart	HRW		60.8	13.4	72.8	11.6	90.0	-1.38	10.9	1.52	0.39	M	3	4.3	63.2	9.4	72.9	1115	8
Robidoux	HRW		50.3	11.7	68.1	9.8	91.0	-1.42	9.8	1.69	0.38	M	4	3.8	59.9	6.3	69.6	960	8
Settler CL	HRW		53.8	11.9	68.5	10.4	90.8	-1.15	9.1	1.59	0.38	M	4	4.4	62.9	8.2	72.6	1005	8
WB-Matlock	HRW		55.8	13.1	67.9	11.6	90.7	-1.29	9.6	1.58	0.42	M	4	3.6	65.9	6.8	75.6	1050	8
WB-Quake	HRW		61.7	12.0	72.2	10.7	91.0	-1.50	10.3	1.44	0.38	M	3	3.8	63.1	8.1	71.8	1060	8
Yellowstone	HRW		56.2	11.7	69.4	9.8	90.8	-1.17	9.5	1.61	0.41	M	4	6.2	63.2	10.4	72.9	995	7
MIN			49.5	11.3	65.9	9.5	90.0	0.55	7.9	1.39	0.37		1	1.8	57.2	1.6	65.9	900	6
MAX			75.1	13.4	72.8	11.6	91.2	1.89	11.8	1.74	0.42		4	6.2	66.2	13.6	75.9	1115	8
AVG			58.7	12.1	69.3	10.4	90.7	1.42	10.1	1.56	0.39		3.2	3.9	62.4	6.8	72.0	1021	7.5



**Table 6. 2010 (Exp. 3502) Intrastate Winter Wheat Nursery Noodles**

Location: Havre, MT

Variety	Class	Noodle Color							Noodle Score	Texture Profile Analysis										
		L* at 0 hour (Brightness)	a* at 0 hour (Green - Red)	b* at 0 hour (Blue - Yellow)	L* at 24 hour (Brightness)	a* at 24 hour (Green - Red)	b* at 24 hour (Blue - Yellow)	24 hour L* Stability ( 0hr-24hr )		Springiness at 0 min	Cohesiveness at 0 min	Adhesiveness at 0 min	Hardness, g at 0 min	Chewiness at 0 min	Springiness at 5 min	Cohesiveness at 5 min	Adhesiveness at 5 min	Hardness, g at 5 min	Chewiness at 5 min	
Accipiter	HRW																			
AP 503 CL2	HRW																			
Art	HRW																			
Bearpaw	HRW	88.5	-0.14	15.4	78.6	0.35	20.6	9.9	292	0.93	0.58	-41.3	1156	620	0.90	0.51	-31.8	914	422	
Boomer	HRW																			
Broadview	HRW																			
CDC Falcon	HRW																			
Curlew	HRW	87.2	-0.24	19.1	77.9	0.11	29.5	9.3	288	0.92	0.58	-34.6	1084	584	0.90	0.52	-26.2	894	415	
Decade	HRW	89.1	0.11	13.0	81.3	0.19	19.1	7.9	334	0.94	0.60	-31.3	1159	654	0.92	0.56	-38.5	953	493	
Genou	HRW																			
Hyalite (CL)	HWW	89.0	-0.31	15.1	82.3	0.04	23.7	6.8	355	0.95	0.59	-37.4	1207	678	0.91	0.54	-36.2	940	455	
Jagalene	HRW																			
Judee	HRW	86.8	0.01	18.1	75.2	0.01	26.6	11.6	248	0.95	0.62	-35.8	1227	713	0.93	0.54	-31.6	1033	516	
Ledger	HRW																			
MT0866	HRW	88.9	-0.48	16.3	80.9	0.37	25.1	8.0	312	0.94	0.60	-40.2	1269	715	0.91	0.54	-36.1	1045	509	
MT0871	HRW	87.8	-0.03	16.7	80.3	0.50	26.3	7.5	333	0.96	0.60	-34.5	1181	682	0.94	0.54	-31.8	960	485	
MTS04114	HWW	87.6	-0.35	18.1	77.6	0.29	26.0	10.1	272	0.95	0.60	-32.1	1159	663	0.93	0.55	-34.2	949	484	
MTS04114L	HWW	86.6	-0.08	18.7	75.2	0.19	27.7	11.4	243	0.92	0.59	-52.5	1243	675	0.93	0.54	-36.1	1021	514	
MTS0532	HWW	87.9	-0.35	17.8	77.0	0.35	25.6	10.9	271	0.92	0.60	-38.8	1205	667	0.95	0.56	-37.4	987	527	
MTS0532L	HWW	87.4	-0.21	17.7	76.2	0.03	26.9	11.2	243	0.93	0.60	-35.5	1147	638	0.91	0.56	-46.8	969	496	
MTS0808	HRW																			
MTS0819	HRW																			
MTS0826	HRW																			
MTS0832	HRW																			
Overland	HRW																			
Promontory	HRW	88.7	-0.68	17.5	81.8	0.62	27.2	6.9	358	0.92	0.60	-37.6	1190	653	0.90	0.53	-35.6	956	455	
Radiant	HRW																			
Rampart	HRW																			
Robidoux	HRW																			
Settler CL	HRW																			
WB-Matlock	HRW																			
WB-Quake	HRW																			
Yellowstone	HRW	87.4	0.25	15.3	78.4	0.64	23.5	9.1	295	0.96	0.60	-40.2	1244	717	0.92	0.54	-36.5	1012	504	
MIN		86.6	0.01	13.0	75.2	0.01	19.1	6.8	243	0.92	0.58	31.3	1084	584	0.90	0.51	26.2	894	415	
MAX		89.1	0.68	19.1	82.3	0.64	29.5	11.6	358	0.96	0.62	52.5	1269	717	0.95	0.56	46.8	1045	527	
AVG		87.9	0.25	16.8	78.7	0.28	25.2	9.3	296	0.94	0.60	37.8	1190	666	0.92	0.54	35.3	972	483	

**Table 7. 2010 (Exp. 3507) Intrastate Winter Wheat Nursery Noodles**

Location: Moccasin, MT

Variety	Class	Noodle Color							Noodle Score	Texture Profile Analysis										
		L* at 0 hour (Brightness)	a* at 0 hour (Green - Red)	b* at 0 hour (Blue - Yellow)	L* at 24 hour (Brightness)	a* at 24 hour (Green - Red)	b* at 24 hour (Blue - Yellow)	24 hour L* Stability ( 0hr-24hr )		Springiness at 0 min	Cohesiveness at 0 min	Adhesiveness at 0 min	Hardness, g at 0 min	Chewiness at 0 min	Springiness at 5 min	Cohesiveness at 5 min	Adhesiveness at 5 min	Hardness, g at 5 min	Chewiness at 5 min	
Accipiter	HRW																			
AP 503 CL2	HRW																			
Art	HRW																			
Bearpaw	HRW	87.9	-0.40	17.3	79.0	0.31	23.5	8.9	311	0.94	0.59	-43.7	1189	664	0.90	0.53	-30.6	945	453	
Boomer	HRW																			
Broadview	HRW																			
CDC Falcon	HRW																			
Curlew	HRW	87.7	-0.67	19.9	79.5	0.16	31.4	8.2	313	0.95	0.58	-31.8	1153	635	0.89	0.52	-35.8	915	428	
Decade	HRW	89.3	-0.01	13.5	82.3	0.23	20.3	7.1	332	0.95	0.61	-48.4	1234	718	0.88	0.57	-36.0	957	476	
Genou	HRW																			
Hyalite (CL)	HWW	88.4	-0.76	18.5	79.2	0.63	28.0	9.2	295	0.93	0.61	-41.9	1198	680	0.93	0.55	-37.6	994	508	
Jagalene	HRW																			
Judee	HRW	88.0	-0.43	17.9	78.8	0.32	27.3	9.2	294	0.93	0.59	-32.9	1214	662	0.91	0.55	-28.8	951	477	
Ledger	HRW																			
MT0866	HRW	89.1	-0.70	16.5	82.1	0.55	24.5	7.0	330	0.93	0.58	-37.5	1279	693	0.90	0.53	-34.8	1025	488	
MT0871	HRW	89.2	-0.51	16.4	83.0	0.28	24.4	6.2	354	0.92	0.61	-38.1	1174	649	0.89	0.53	-35.2	937	439	
MTS04114	HWW	89.1	-0.56	16.2	82.0	0.22	25.4	7.1	334	0.95	0.60	-38.9	1227	699	0.91	0.54	-36.4	983	481	
MTS04114L	HWW	88.1	-0.68	19.0	78.9	0.51	29.3	9.2	289	0.96	0.61	-40.5	1187	697	0.92	0.55	-37.3	978	495	
MTS0532	HWW	88.3	-0.70	18.6	79.3	0.58	28.6	9.0	293	0.93	0.61	-41.7	1176	673	0.92	0.56	-39.8	975	504	
MTS0532L	HWW	88.1	-0.70	18.8	79.1	0.38	28.8	9.0	288	0.97	0.61	-41.3	1237	724	0.92	0.55	-35.2	995	502	
MTS0808	HRW																			
MTS0819	HRW																			
MTS0826	HRW																			
MTS0832	HRW																			
Overland	HRW																			
Promontory	HRW	88.5	-1.01	19.8	81.8	0.81	30.0	6.7	355	0.94	0.59	-34.6	1127	630	0.93	0.53	-26.7	915	448	
Radiant	HRW																			
Rampart	HRW																			
Robidoux	HRW																			
Settler CL	HRW																			
WB-Matlock	HRW																			
WB-Quake	HRW																			
Yellowstone	HRW	88.5	0.14	14.2	80.1	0.62	23.0	8.4	314	0.92	0.60	-37.5	1238	684	0.90	0.55	-38.3	999	493	
MIN		87.7	0.01	13.5	78.8	0.16	20.3	6.2	288	0.92	0.58	31.8	1127	630	0.88	0.52	26.7	915	428	
MAX		89.3	1.01	19.9	83.0	0.81	31.4	9.2	355	0.97	0.61	48.4	1279	724	0.93	0.57	39.8	1025	508	
AVG		88.5	0.56	17.4	80.4	0.43	26.5	8.1	316	0.94	0.60	39.1	1202	678	0.91	0.54	34.8	967	476	

**Table 8. 2010 (Exp. 3508) Intrastate Winter Wheat Nursery Noodles**

Location: Huntley, MT

Variety	Class	Noodle Color							Noodle Score	Texture Profile Analysis										
		L* at 0 hour (Brightness)	a* at 0 hour (Green - Red)	b* at 0 hour (Blue - Yellow)	L* at 24 hour (Brightness)	a* at 24 hour (Green - Red)	b* at 24 hour (Blue - Yellow)	24 hour L* Stability ( 0hr-24hr )		Springiness at 0 min	Cohesiveness at 0 min	Adhesiveness at 0 min	Hardness, g at 0 min	Chewiness at 0 min	Springiness at 5 min	Cohesiveness at 5 min	Adhesiveness at 5 min	Hardness, g at 5 min	Chewiness at 5 min	
Accipiter	HRW																			
AP 503 CL2	HRW																			
Art	HRW																			
Bearpaw	HRW	87.0	-0.06	16.9	77.2	0.19	22.5	9.8	291	0.96	0.59	-38.3	1195	682	0.90	0.53	-30.6	980	471	
Boomer	HRW																			
Broadview	HRW																			
CDC Falcon	HRW																			
Curlew	HRW	86.5	-0.28	19.7	77.4	0.40	30.8	9.2	290	0.95	0.59	-37.8	1209	675	0.88	0.52	-34.4	962	439	
Decade	HRW	87.1	0.42	14.6	76.7	1.13	22.4	10.4	268	0.95	0.61	-50.9	1383	795	0.93	0.57	-47.2	1148	607	
Genou	HRW																			
Hyalite (CL)	HWW	86.6	-0.08	17.7	78.4	0.88	26.6	8.2	304	0.96	0.60	-34.3	1250	720	0.94	0.56	-39.1	1007	526	
Jagalene	HRW																			
Judee	HRW	87.0	-0.07	17.5	76.4	0.19	26.2	10.6	269	0.94	0.60	-33.5	1292	734	0.94	0.54	-33.8	1025	517	
Ledger	HRW																			
MT0866	HRW	87.8	-0.21	16.6	78.5	0.20	25.5	9.3	288	0.96	0.60	-33.5	1370	787	0.91	0.55	-32.7	1087	540	
MT0871	HRW	86.1	0.21	18.4	77.1	1.28	27.6	8.9	306	0.95	0.60	-44.9	1277	729	0.94	0.53	-34.6	1085	542	
MTS04114	HWW	86.5	-0.28	19.4	76.1	0.14	28.0	10.4	263	0.93	0.61	-47.5	1247	709	0.95	0.55	-33.5	1050	544	
MTS04114L	HWW	85.5	0.09	19.4	73.5	0.81	28.5	12.0	218	0.95	0.61	-44.6	1291	750	0.91	0.55	-30.8	1037	518	
MTS0532	HWW	86.3	-0.15	19.1	74.9	0.23	27.4	11.4	241	0.97	0.61	-38.2	1249	738	0.94	0.57	-39.9	1042	555	
MTS0532L	HWW	86.0	0.00	19.1	75.1	0.57	28.0	10.9	257	0.92	0.61	-52.9	1245	698	0.94	0.57	-36.2	1039	551	
MTS0808	HRW																			
MTS0819	HRW																			
MTS0826	HRW																			
MTS0832	HRW																			
Overland	HRW																			
Promontory	HRW	87.0	-0.44	18.5	78.5	0.16	30.1	8.6	310	0.93	0.61	-38.9	1212	684	0.94	0.54	-33.3	1006	511	
Radiant	HRW																			
Rampart	HRW																			
Robidoux	HRW																			
Settler CL	HRW																			
WB-Matlock	HRW																			
WB-Quake	HRW																			
Yellowstone	HRW	87.0	0.30	15.5	77.7	1.04	24.2	9.3	292	0.92	0.60	-37.3	1293	707	0.93	0.55	-33.5	1081	553	
MIN		85.5	0.00	14.6	73.5	0.14	22.4	8.2	218	0.92	0.59	-52.9	1195	675	0.88	0.52	-47.2	962	439	
MAX		87.8	0.44	19.7	78.5	1.28	30.8	12.0	310	0.97	0.61	-33.9	1383	795	0.95	0.57	-30.6	1148	607	
AVG		86.6	0.20	17.9	76.7	0.56	26.8	9.9	277	0.95	0.60	-41.0	1270	724	0.93	0.55	-35.4	1042	529	



**Table 9. 2010(Exp. 3518) Intrastate Winter Wheat Nursery Noodles**  
**Location: Conrad, MT**

Variety	Class	Noodle Color							Noodle Score	Texture Profile Analysis									
		L* at 0 hour (Brightness)	a* at 0 hour (Green - Red)	b* at 0 hour (Blue - Yellow)	L* at 24 hour (Brightness)	a* at 24 hour (Green - Red)	b* at 24 hour (Blue - Yellow)	24 hour L * Stability ( 0hr-24hr )		Springiness at 0 min	Cohesiveness at 0 min	Adhesiveness at 0 min	Hardness, g at 0 min	Chewiness at 0 min	Springiness at 5 min	Cohesiveness at 5 min	Adhesiveness at 5 min	Hardness, g at 5 min	Chewiness at 5 min
Accipiter	HRW																		
AP 503 CL2	HRW																		
Art	HRW																		
Bearpaw	HRW	88.5	-0.38	14.5	80.4	0.23	20.9	8.1	314	0.94	0.58	-30.8	1073	585	0.91	0.52	-30.1	848	403
Boomer	HRW																		
Broadview	HRW																		
CDC Falcon	HRW																		
Curlew	HRW	86.2	-0.37	19.0	78.1	0.41	27.3	8.0	310	0.97	0.58	-33.5	1105	626	0.92	0.53	-34.2	841	414
Decade	HRW	89.1	0.09	12.1	81.0	0.44	19.3	8.1	312	0.92	0.61	-41.5	1132	627	0.94	0.54	-29.5	907	464
Genou	HRW																		
Hyalite (CL)	HWW	88.3	-0.35	14.1	80.9	0.14	22.6	7.4	336	0.91	0.61	-38.5	1202	668	0.91	0.55	-34.6	947	471
Jagalene	HRW																		
Judee	HRW	88.2	-0.39	16.0	79.0	0.28	23.5	9.2	295	0.93	0.58	-27.6	1075	583	0.93	0.53	-27.0	854	420
Ledger	HRW																		
MT0866	HRW	87.8	-0.34	15.9	78.5	0.12	24.8	9.3	290	0.97	0.61	-35.4	1155	681	0.94	0.55	-30.4	982	503
MT0871	HRW	88.7	-0.18	14.9	82.1	0.21	23.0	6.6	356	0.95	0.61	-37.4	1104	636	0.92	0.54	-29.4	852	425
MTS04114	HWW	86.0	-0.07	17.9	75.5	0.61	26.5	10.5	271	0.93	0.65	-61.5	1160	702	0.94	0.58	-35.7	961	522
MTS04114L	HWW	85.8	0.06	18.2	75.9	0.76	27.8	9.9	282	0.96	0.62	-37.4	1110	659	0.93	0.58	-42.0	940	501
MTS0532	HWW	87.4	-0.52	17.0	79.2	0.25	23.5	8.2	312	0.92	0.65	-61.3	1120	673	0.91	0.57	-35.1	909	470
MTS0532L	HWW	86.0	-0.06	18.4	76.7	0.75	26.6	9.2	287	0.92	0.63	-48.5	1119	649	0.93	0.57	-33.9	873	464
MTS0808	HRW																		
MTS0819	HRW																		
MTS0826	HRW																		
MTS0832	HRW																		
Overland	HRW																		
Promontory	HRW	88.1	-0.74	16.8	81.2	0.49	26.8	6.9	356	0.93	0.61	-27.8	1048	588	0.93	0.54	-29.0	858	432
Radiant	HRW																		
Rampart	HRW																		
Robidoux	HRW																		
Settler CL	HRW																		
WB-Matlock	HRW																		
WB-Quake	HRW																		
Yellowstone	HRW	87.9	0.04	13.9	80.4	0.51	20.3	7.5	336	0.93	0.61	-37.3	1141	652	0.92	0.55	-31.7	903	457
MIN		85.8	0.04	12.1	75.5	0.12	19.3	6.6	271	0.91	0.58	27.6	1048	583	0.91	0.52	27.0	841	403
MAX		89.1	0.74	19.0	82.1	0.76	27.8	10.5	356	0.97	0.65	61.5	1202	702	0.94	0.58	42.0	982	522
AVG		87.5	0.28	16.1	79.1	0.40	24.1	8.4	312	0.94	0.61	39.9	1119	641	0.93	0.55	32.5	898	457

**Table 10. 2010 (Exp. 35) Intrastate Winter Wheat Nursery Noodles**  
**Location: Means across Montana locations**

Variety	Class	Noodle Color							Noodle Score	Texture Profile Analysis									
		L* at 0 hour (Brightness)	a* at 0 hour (Green - Red)	b* at 0 hour (Blue - Yellow)	L* at 24 hour (Brightness)	a* at 24 hour (Green - Red)	b* at 24 hour (Blue - Yellow)	24 hour L* Stability ( 0hr-24hr )		Springiness at 0 min	Cohesiveness at 0 min	Adhesiveness at 0 min	Hardness, g at 0 min	Chewiness at 0 min	Springiness at 5 min	Cohesiveness at 5 min	Adhesiveness at 5 min	Hardness, g at 5 min	Chewiness at 5 min
Accipiter	HRW																		
AP 503 CL2	HRW																		
Art	HRW																		
Bearpaw	HRW	88.0	-0.25	16.0	78.8	0.27	21.9	9.2	302	0.94	0.59	-38.5	1153	638	0.90	0.52	-30.8	922	437
Boomer	HRW																		
Broadview	HRW																		
CDC Falcon	HRW																		
Curlew	HRW	86.9	-0.39	19.4	78.2	0.27	29.7	8.7	300	0.95	0.58	-34.4	1138	630	0.90	0.52	-32.6	903	424
Decade	HRW	88.7**	0.15	13.3	80.3*	0.50	20.3	8.4*	312	0.94	0.61	-43.0	1227	699	0.92	0.56	-37.8	992	510
Genou	HRW																		
Hyalite (CL)	HWW	88.1*	-0.38	16.4	80.2*	0.42	25.2	7.9*	323*	0.94	0.60	-38.0	1214	687	0.92	0.55	-36.9	972	490
Jagalene	HRW																		
Judee	HRW	87.5	-0.23	17.4	77.4	0.20	25.9	10.2	277	0.94	0.60	-32.4	1202	673	0.93	0.54	-30.3	966	483
Ledger	HRW																		
MT0866	HRW	88.4*	-0.43	16.3	80.0*	0.31	25.0	8.4*	305	0.95	0.60	-36.6	1268	719	0.91	0.54	-33.5	1035	510
MT0871	HRW	87.9*	-0.23	16.6	80.6*	0.57	25.3	7.3*	337*	0.94	0.60	-38.7	1184	674	0.92	0.54	-32.7	958	473
MTS04114	HWW	87.3	-0.32	17.9	77.8	0.32	26.5	9.5	285	0.94	0.62	-45.0	1198	693	0.93	0.55	-34.9	986	508
MTS04114L	HWW	86.5	-0.15	18.8	75.9	0.57	28.3	10.6	258	0.95	0.61	-43.7	1208	695	0.92	0.56	-36.5	994	507
MTS0532	HWW	87.5	-0.43	18.1	77.6	0.35	26.3	9.9	279	0.93	0.62	-45.0	1187	688	0.93	0.56	-38.0	978	514
MTS0532L	HWW	86.9	-0.24	18.5	76.8	0.43	27.6	10.1	269	0.94	0.61	-44.5	1187	677	0.93	0.56	-38.0	969	503
MTS0808	HRW																		
MTS0819	HRW																		
MTS0826	HRW																		
MTS0832	HRW																		
Overland	HRW																		
Promontory	HRW	88.1*	-0.72	18.1	80.8**	0.52	28.5	7.3**	345**	0.93	0.60	-34.7	1144	639	0.92	0.54	-31.1	934	461
Radiant	HRW																		
Rampart	HRW																		
Robidoux	HRW																		
Settler CL	HRW																		
WB-Matlock	HRW																		
WB-Quake	HRW																		
Yellowstone	HRW	87.7	0.18	14.7	79.2	0.70	22.8	8.6	309	0.93	0.60	-38.0	1229	690	0.92	0.55	-35.0	999	502
Average		87.6	-0.25	17.0	78.7	0.42	25.6	8.9	300	0.94	0.60	-39.4	1195	677	0.92	0.55	-34.5	970	486
LSD (0.05)		0.9	0.18	1.2	1.9	ns	1.6	1.2	26	ns	0.02	ns	51	40	ns	0.01	5.3	46	33
C.V.		0.7	51	4.7	1.6	65	4.3	9.5	6.1	1.9	1.9	17.2	3.0	4.2	1.6	1.7	10.7	3.3	4.7
P-Value		0.0003	<.0001	<.0001	<.0001	0.3361	<.0001	<.0001	<.0001	0.8457	0.0011	0.1187	0.0004	0.0016	0.1129	<.0001	0.0238	<.0001	<.0001