Manitoba Average **Feed Values** for the **Beef / Bison / Sheep Producer**

MFC MANITOBA FORAGE COUNCIL

Manitoba

BEEF/SHEEP/BISON PRODUCTION

From 2000 to 2005, Manitoba Agriculture, Food and Rural Initiatives conducted an extension program designed to encourage feed testing and ration balancing with livestock producers in Manitoba. These reported results have been calculated from feed samples submitted by Manitoba producers. All samples were analyzed at Norwest/Bodycote Labs in Winnipeg.

		HAY												
		Alfalfa				Alfalfa/Grass				Annual rye grass	Crested wheat grass	Meadow brome grass	Orchard grass	Perennial rye grass
		1st cut	2nd cut	3rd cut	All cuts	1st cut	2nd cut	3rd cut	All cuts					
As Fed Moisture	# Samples	283	376	35	1138	314	195	10	1513	4	8	14	2	10
	Average	16.7	17.4	16.5	16.8	17.2	16.7	16.9	16.5	21.3	14.6	16.6	19.2	14.0
	Minimum	9.2	8.9	9.6	3.9	9.0	9.2	11.0	8.1	20.4	11.6	9.9	18.0	10.2
	Maximum	38.8	34.7	36.9	38.8	52.2	34.9	23.1	78.4	23.4	23.7	29.7	20.4	17.9
Crude Protein (%)	# Samples	283	381	36	1169	314	202	10	1549	4	9	15	3	10
	Average	19.3	21.6	23.5	20.3	16.0	19.6	22.0	16.1	11.6	9.3	10.8	14.2	8.5
	Minimum	10.5	9.7	14.6	7.7	5.6	8.8	14.3	4.4	8.7	3.0	4.8	10.2	5.8
	Maximum	28.4	28.8	29.8	29.8	25.3	25.8	25.5	26.2	14.9	20.7	22.7	20.8	12.9
Acid Detergent Fibre (%)	# Samples	287	383	36	1181	284	181	10	1393	4	9	15	3	10
	Average	36.6	32.1	26.7	34.2	17.0	16.7	16.9	16.5	38.2	37.5	41.2	38.1	40.6
	Minimum	22.9	20.4	18.2	18.2	9.0	9.2	11.0	8.1	33.8	34.8	30.8	34.8	35.2
	Maximum	54.1	53.2	39.3	57.1	37.6	34.9	23.1	78.4	40.9	40.7	55.0	42.2	45.6
Neutral Detergent Fibre (%)	# Samples	253	354	35	1043	286	190	10	1319	4	4	14	1	8
	Average	48.6	42.6	37.2	45.5	54.7	45.6	39.5	53.0	62.7	62.7	65.3	64.7	65.6
	Minimum	30.9	30.5	26.5	26.5	37.5	31.6	33.4	18.1	56.4	59.3	49.7	64.7	59.2
	Maximum	73.0	70.4	55.0	78.5	74.7	69.5	52.9	474.0	65.7	68.9	78.5	64.7	78.4
NEgain (Mcal/kg)	# Samples	227	304	28	965	283	179	10	1399	4	9	12	3	9
	Average	0.63	0.71	0.82	0.67	0.55	0.70	0.83	0.59	0.57	0.60	0.51	0.57	0.45
	Minimum	0.20	0.32	0.59	0.20	0.05	0.26	0.53	0.05	0.46	0.47	0.07	0.42	0.28
	Maximum	0.92	1.02	0.99	1.02	0.88	0.98	1.00	1.00	0.73	0.70	0.85	0.70	0.55
NEmaint (Mcal/kg)	# Samples	227	304	28	965	283	179	10	1399	4	9	13	3	9
	Average	1.33	1.41	1.52	1.37	1.25	1.40	1.53	1.29	1.27	1.30	1.17	1.27	1.15
	Minimum	0.90	1.02	1.29	0.90	0.75	0.96	1.23	0.75	1.16	1.17	0.63	1.12	0.98
	Maximum	1.62	1.72	1.69	1.72	1.58	1.68	1.70	1.70	1.43	1.40	1.55	1.40	1.25
Total Digestible Nutrients (%)	# Samples	287	383	36	1181	318	202	10	1559	4	9	15	3	10
	Average	59.2	62.9	67.1	61.1	57.6	62.9	67.5	58.6	58.0	58.4	56.0	59.1	55.3
	Minimum	42.7	42.6	58.3	31.1	45.0	45.6	57.8	14.3	55.0	53.7	46.1	56.0	48.0
	Maximum	71.2	75.0	74.8	75.0	69.3	71.6	74.2	74.2	62.6	62.6	65.1	62.5	60.2
Calcium (%)	# Samples	76	84	7	391	87	54	1	634	1	6	5	3	5
	Average	1.57	1.63	1.59	1.59	1.17	1.46	1.53	1.19	0.46	0.29	0.51	0.47	0.33
	Minimum	0.63	0.60	1.22	0.41	0.42	0.80	1.53	0.20	0.46	0.24	0.25	0.29	0.30
	Maximum	2.58	2.30	2.13	2.89	1.92	2.33	1.53	2.62	0.46	0.41	1.14	0.69	0.36
Phosphorus (%)	# Samples	76	84	7	391	87	54	1	634	1	6	5	3	5
	Average	0.24	0.23	0.25	0.23	0.21	0.22	0.21	0.20	0.26	0.15	0.15	0.19	0.15
	Minimum	0.09	0.11	0.21	0.09	0.05	0.13	0.21	0.05	0.26	0.07	0.10	0.12	0.10
	Maximum	0.45	0.39	0.34	0.45	0.39	0.39	0.21	0.40	0.26	0.19	0.24	0.23	0.20
Potassium (%)	# Samples	76	84	7	391	87	54	1	634	1	6	5	3	5
	Average	2.32	2.21	2.33	2.24	2.09	2.13	2.16	1.99	1.78	1.48	1.93	1.96	1.42
	Minimum	0.95	0.59	2.05	0.59	0.54	0.87	2.16	0.54	1.78	0.97	1.40	1.19	0.21
	Maximum	3.50	3.27	2.50	4.05	3.25	2.87	2.16	3.33	1.78	2.07	2.41	2.66	2.05
Relative Feed Value (%)	# Samples	253	354	35	1044	287	191	10	1322	4	5	15	2	8
	Average	120	146	175	134	102	134	163	109	88	90	84	89	82
	Minimum	60	70	100	60	58	68	102	58	81	80	55	81	63
	Maximum	214	218	263	263	170	201	201	201	103	95	120	97	94

- All analyte values are shown on a dry matter basis unless otherwise specified
- All mineral data (C, P, K) was analyzed by wet chemistry
- Data collected from random feed samples submitted by Manitoba producers to Norwest/Bodycote Lab between 2000 and 2005.

		HAY										SILAGE			
		Reed canary grass	Russian wild rye grass	Smooth brome grass	Tall fescue	Timothy	Grass / Alfalfa	Clover	Clover/ grass	Native	Slough	Alfalfa			
		All cuts										1st cut	2nd cut	3rd cut	All cuts
As Fed Moisture	# Samples	3	3	3	8	49	206	9	24	40	81	18	15	2	178
	Average	11.8	17.7	14.0	17.0	14.4	16.4	14.6	16.3	17.7	15.7	54.6	56.4	24.6	53.9
	Minimum	9.8	12.9	10.4	10.6	9.4	8.2	10.7	9.7	10.3	10.1	27.9	33.2	17.4	15.0
	Maximum	15.7	26.8	18.2	27.7	21.7	62.0	17.4	24.7	55.3	27.6	75.9	79.6	31.7	79.6
Crude Protein (%)	# Samples	4	4	4	10	48	204	10	23	41	81	22	15	2	193
	Average	15.2	14.9	12.1	11.6	8.2	13.2	16.5	14.8	10.0	9.5	20.1	22.8	20.3	19.0
	Minimum	8.0	8.7	5.4	8.0	4.9	5.9	11.6	7.7	2.7	3.9	10.3	19.0	19.4	7.1
	Maximum	25.3	20.1	19.8	24.1	14.4	28.2	22.1	23.3	14.6	15.7	24.3	24.9	21.3	28.1
Acid Detergent Fibre (%)	# Samples	4	4	4	10	49	208	10	24	41	82	22	15	2	196
	Average	37.5	40.0	39.5	39.7	40.6	37.8	36.5	40.0	40.6	41.2	34.6	32.9	35.2	36.7
	Minimum	33.0	34.4	35.1	29.3	26.7	30.5	27.9	29.1	34.6	33.7	28.7	28.4	30.8	22.9
	Maximum	41.4	46.4	47.5	46.2	49.8	51.7	47.5	56.6	51.0	52.4	43.1	41.4	39.7	54.1
Neutral Detergent Fibre (%)	# Samples	2	3	3	8	47	169	8	19	30	47	21	15	2	165
	Average	67.7	67.5	65.8	68.1	65.0	56.9	49.2	52.7	61.4	66.5	44.8	39.8	48.2	45.8
	Minimum	65.2	64.5	57.4	59.4	49.4	21.1	37.3	40.7	51.0	52.2	36.1	27.7	45.3	27.7
	Maximum	70.2	71.9	77.3	78.5	79.5	74.5	59.1	72.3	70.8	76.7	56.6	49.3	51.1	70.4
NEgain (Mcal/kg)	# Samples	4	3	4	9	40	200	6	21	37	79	15	13	1	116
	Average	0.59	0.50	0.52	0.48	0.46	0.58	0.57	0.54	0.47	0.45	0.66	0.70	0.54	0.64
	Minimum	0.44	0.26	0.21	0.26	0.13	0.05	0.43	0.12	0.08	0.03	0.45	0.49	0.54	0.15
	Maximum	0.77	0.71	0.68	0.90	1.00	0.86	0.66	0.91	0.70	0.74	0.81	0.79	0.54	0.96
NEmaint (Mcal/kg)	# Samples	4	3	4	9	40	200	6	21	37	79	15	13	1	116
	Average	1.29	1.20	1.22	1.18	1.16	1.28	1.27	1.24	1.17	1.15	1.36	1.40	1.24	1.34
	Minimum	1.14	0.96	0.91	0.96	0.83	0.75	1.13	0.82	0.78	0.73	1.15	1.19	1.24	0.85
	Maximum	1.47	1.41	1.38	1.60	1.70	1.56	1.36	1.61	1.40	1.44	1.51	1.49	1.24	1.66
Total Digestible Nutrients (%)	# Samples	4	4	4	10	49	207	10	24	41	82	22	15	2	196
	Average	59.5	57.3	57.6	58.7	56.6	59.2	59.2	56.2	56.0	55.6	61.6	62.5	60.4	59.6
	Minimum	56.6	52.8	51.9	52.9	42.1	46.3	51.9	37.5	38.4	47.1	55.3	56.6	58.0	44.7
	Maximum	65.2	63.1	62.0	70.7	74.6	69.0	67.2	71.0	62.8	64.1	67.7	65.7	62.8	73.2
Calcium (%)	# Samples	2	1	1	4	28	79	2	13	22	48	6	4	2	110
	Average	0.34	0.39	0.28	0.37	0.33	0.81	1.28	1.01	0.47	0.54	1.47	1.52	1.32	1.54
	Minimum	0.32	0.39	0.28	0.22	0.15	0.25	1.15	0.41	0.27	0.26	0.87	1.26	0.94	0.14
	Maximum	0.35	0.39	0.28	0.46	0.60	1.58	1.40	1.52	0.86	1.08	1.88	1.87	1.69	2.70
Phosphorus (%)	# Samples	2	1	1	4	28	79	2	13	22	48	6	4	2	110
	Average	0.22	0.21	0.23	0.12	0.16	0.19	0.23	0.18	0.11	0.12	0.33	0.31	0.20	0.28
	Minimum	0.18	0.21	0.23	0.09	0.10	0.08	0.14	0.10	0.06	0.06	0.28	0.27	0.17	0.08
	Maximum	0.26	0.21	0.23	0.16	0.31	0.44	0.31	0.24	0.26	0.29	0.37	0.34	0.22	0.66
Potassium (%)	# Samples	2	1	1	4	28	79	2	13	22	48	6	4	2	110
	Average	2.29	2.19	2.85	1.97	1.47	1.93	2.27	1.99	1.11	1.30	2.16	2.35	1.71	2.44
	Minimum	1.82	2.19	2.85	1.48	0.53	0.75	1.83	1.38	0.53	0.41	1.52	1.87	1.41	0.46
	Maximum	2.75	2.19	2.85	2.73	2.74	3.72	2.70	2.98	2.02	3.14	3.46	3.28	2.01	4.09
Relative Feed Value (%)	# Samples	3	4	4	9	47	167	8	20	30	47	21	15	2	162
	Average	86	83	85	83	83	98	118	105	89	79	132	152	120	129
	Minimum	75	68	62	63	59	61	86	58	70	59	93	107	106	62
	Maximum	99	99	100	122	128	142	167	151	110	111	170	214	133	217

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SILAGE

		Alfalfa/Grass			Barley	Canola	Corn	Fall rye	Millet	Oats	Sorghum Sudan grass	Wheat	Barley & oat	Barley & pea
		1st cut	2nd cut	All cuts	All cuts									
As Fed Moisture	# Samples	14	12	108	272	8	394	7	18	103	15	10	9	11
	Average	52.0	52.9	32.7	59.1	65.6	65.3	62.9	57.7	61.3	62.4	49.1	60.8	62.2
	Minimum	19.5	33.4	0.3	26.2	44.9	25.0	44.5	19.5	25.0	31.4	25.4	44.1	44.6
	Maximum	76.9	77.7	77.7	78.3	79.2	82.4	74.0	76.8	80.5	84.8	66.0	71.1	74.7
Crude Protein (%)	# Samples	13	12	106	261	8	372	6	17	101	11	10	9	11
	Average	16.4	20.5	17.4	11.1	14.7	9.4	11.9	11.9	10.9	11.9	10.1	13.3	13.5
	Minimum	11.1	15.8	10.4	5.7	9.3	2.7	8.5	7.5	6.9	6.1	7.4	9.8	10.4
	Maximum	24.8	23.3	24.8	18.0	23.5	21.4	19.2	20.0	19.2	17.4	13.2	19.2	16.3
Acid Detergent Fibre (%)	# Samples	14	13	111	272	8	396	7	17	104	12	10	9	11
	Average	38.6	34.0	36.7	33.1	37.5	30.1	37.7	36.8	37.0	39.3	34.6	35.4	32.9
	Minimum	29.1	25.1	23.5	15.5	34.0	16.5	29.4	30.1	24.2	31.1	29.2	28.9	28.8
	Maximum	45.3	42.4	54.8	47.8	44.4	46.6	42.1	47.3	50.6	47.7	48.2	39.0	37.8
Neutral Detergent Fibre (%)	# Samples	11	11	89	171	5	236	3	9	67	8	8	8	6
	Average	51.0	46.0	50.2	53.3	46.3	53.6	61.1	62.3	58.8	62.4	56.5	55.7	50.3
	Minimum	37.5	38.0	34.6	39.0	44.4	29.7	52.4	52.3	44.7	47.0	50.0	48.8	46.5
	Maximum	63.0	56.5	65.9	67.5	51.4	75.8	66.4	72.0	68.3	71.5	66.6	60.5	54.0
NEgain (Mcal/kg)	# Samples	14	12	92	237	8	305	6	17	95	12	4	9	10
	Average	0.57	0.68	0.60	0.89	0.69	0.90	0.84	0.62	0.85	0.76	0.86	0.87	0.89
	Minimum	0.40	0.47	0.12	0.47	0.33	0.28	0.82	0.22	0.46	0.44	0.80	0.74	0.83
	Maximum	0.80	0.85	0.92	1.00	0.91	1.02	0.88	0.87	0.97	0.88	0.89	0.96	0.95
NEmaint (Mcal/kg)	# Samples	14	12	92	237	8	305	6	17	95	12	4	9	10
	Average	1.27	1.38	1.30	1.59	1.39	1.60	1.54	1.32	1.55	1.46	1.56	1.57	1.59
	Minimum	1.10	1.17	0.64	1.17	1.03	0.98	1.52	0.92	1.16	1.14	1.50	1.44	1.53
	Maximum	1.50	1.55	1.62	1.70	1.61	1.72	1.58	1.57	1.67	1.58	1.59	1.66	1.65
Total Digestible Nutrients (%)	# Samples	14	13	110	271	8	396	7	17	104	12	10	9	11
	Average	58.0	61.8	59.4	65.5	59.8	66.6	62.7	59.8	62.8	60.1	64.9	63.4	65.4
	Minimum	52.2	55.9	46.2	54.4	48.1	53.2	57.8	43.9	53.2	54.4	54.1	60.5	61.3
	Maximum	66.0	66.6	70.6	75.1	63.8	74.6	68.6	69.5	71.0	67.8	69.5	67.6	68.8
Calcium (%)	# Samples	4	3	45	180	7	281	6	15	68	8	4	4	6
	Average	1.24	2.20	1.41	0.43	1.64	0.28	0.43	0.43	0.36	0.69	0.23	0.42	0.68
	Minimum	0.82	1.29	0.65	0.15	0.69	0.08	0.16	0.19	0.10	0.38	0.16	0.24	0.51
	Maximum	1.50	2.81	2.81	1.71	2.09	2.09	1.38	0.72	0.64	1.24	0.31	0.73	0.95
Phosphorus (%)	# Samples	4	3	45	180	7	281	6	15	68	8	4	4	6
	Average	0.25	0.26	0.25	0.26	0.28	0.24	0.28	0.24	0.25	0.23	0.23	0.22	0.30
	Minimum	0.16	0.17	0.14	0.11	0.20	0.06	0.14	0.14	0.08	0.12	0.18	0.16	0.23
	Maximum	0.34	0.40	0.40	0.46	0.33	0.43	0.43	0.35	0.46	0.36	0.30	0.28	0.36
Potassium (%)	# Samples	4	3	45	180	7	281	6	15	68	8	4	4	6
	Average	2.28	2.01	2.36	1.71	1.71	1.19	1.74	2.52	2.02	2.42	1.74	1.85	1.55
	Minimum	1.53	1.95	1.53	0.62	1.44	0.52	1.08	1.34	0.78	1.30	0.88	1.19	1.02
	Maximum	3.02	2.07	4.14	2.97	2.69	3.02	2.33	4.73	4.42	3.06	2.57	2.86	2.32
Relative Feed Value (%)	# Samples	11	11	88	171	5	228	3	9	64	8	5	8	5
	Average	111	126	115	110	122	116	87	90	94	86	95	103	116
	Minimum	82	92	70	68	98	65	79	67	72	67	72	92	102
	Maximum	162	159	190	172	131	238	101	108	140	122	113	127	131

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- Data collected from random feed samples submitted by Manitoba producers to Norwest/Bodycote Lab between 2000 and 2005.

		GREENFEED								GRAIN		MISC. FEEDS		
		Barley	Canola	Corn	Fall rye	Millet	Oats	Sorghum Sudan grass	Wheat	Barley	Oats	Wild oat green feed	Kochia hay	Quack grass hay
		All cuts												
As Fed Moisture	# Samples	253	20	98	11	200	609	31	42	110	81	3	6	5
	Average	26.0	26.6	66.0	20.3	24.2	23.4	36.8	25.2	13.5	12.3	53.2	19.5	18.8
	Minimum	3.7	14.4	12.2	9.7	7.5	2.9	13.8	7.8	8.6	8.0	14.8	15.8	10.4
	Maximum	85.8	74.8	89.8	84.6	84.7	79.4	85.8	77.5	24.9	17.0	76.0	26.5	30.9
Crude Protein (%)	# Samples	225	14	78	11	176	511	27	37	108	76	1	6	6
	Average	11.4	12.3	9.8	12.7	10.9	10.3	11.5	10.7	12.6	12.4	9.5	12.7	8.9
	Minimum	5.0	8.2	5.1	3.8	4.9	3.3	8.7	6.1	8.1	7.7	9.5	10.2	4.1
	Maximum	23.1	16.4	21.4	26.2	21.7	20.8	15.6	23.8	15.2	16.8	9.5	18.8	11.7
Acid Detergent Fibre (%)	# Samples	227	17	72	11	179	518	27	37	103	70	1	6	6
	Average	35.2	39.0	32.6	39.3	36.9	37.0	37.3	40.2	7.5	15.5	33.4	40.2	39.0
	Minimum	21.1	29.7	19.0	26.1	25.2	22.8	26.5	23.3	5.0	7.0	33.4	28.9	32.0
	Maximum	52.7	45.2	51.0	58.8	50.8	54.6	48.0	51.4	14.3	34.4	33.4	54.6	46.8
Neutral Detergent Fibre (%)	# Samples	165	12	64	7	65	334	8	27	6	4	0	1	5
	Average	56.4	52.1	51.9	58.8	61.5	58.7	62.7	60.8	21.2	31.8	n/a	74.1	63.0
	Minimum	38.8	43.8	29.1	45.5	49.1	41.7	54.3	40.7	16.6	25.9	n/a	74.1	58.1
	Maximum	74.0	60.9	76.9	76.6	91.1	83.6	74.8	69.8	28.8	39.9	n/a	74.1	69.7
NEgain (Mcal/kg)	# Samples	220	18	79	10	177	503	26	35	101	69	1	5	5
	Average	0.69	0.51	0.82	0.60	0.61	0.61	0.75	0.49	1.34	1.02	0.75	0.58	0.49
	Minimum	0.01	0.01	0.08	0.08	0.04	0.01	0.20	0.06	1.07	0.29	0.75	0.40	0.24
	Maximum	1.44	0.89	1.00	1.03	1.06	1.15	1.01	1.13	1.43	1.36	0.75	0.81	0.67
NEmaint (Mcal/kg)	# Samples	220	17	79	11	177	504	26	35	101	69	1	6	5
	Average	1.39	1.24	1.52	1.22	1.31	1.31	1.32	1.19	2.04	1.72	1.45	1.17	1.19
	Minimum	0.71	1.00	0.78	0.48	0.74	0.64	0.90	0.76	1.77	0.99	1.45	0.64	0.94
	Maximum	2.14	1.59	1.70	1.73	1.76	1.85	1.71	1.83	2.13	2.06	1.45	1.51	1.37
Total Digestible Nutrients (%)	# Samples	227	17	80	11	179	518	26	37	103	70	1	6	6
	Average	62.2	56.3	66.0	56.2	59.6	60.2	60.2	57.1	83.8	74.8	64.7	55.8	57.7
	Minimum	43.1	47.0	49.2	26.6	38.6	33.0	48.2	46.2	76.2	53.7	64.7	46.4	44.6
	Maximum	86.9	70.1	75.2	68.6	76.8	74.9	74.9	79.6	86.5	84.4	64.7	66.4	66.7
Calcium (%)	# Samples	153	16	40	5	163	304	25	22	101	72	1	6	2
	Average	0.45	1.52	0.23	0.40	0.44	0.33	0.50	0.24	0.06	0.10	0.30	0.91	0.53
	Minimum	0.12	1.04	0.06	0.21	0.17	0.06	0.06	0.09	0.03	0.06	0.30	0.75	0.41
	Maximum	1.15	1.98	0.46	0.89	1.94	0.90	0.89	1.05	0.35	0.35	0.30	1.23	0.64
Phosphorus (%)	# Samples	153	16	40	5	163	304	25	22	101	72	1	6	2
	Average	0.25	0.27	0.27	0.25	0.22	0.23	0.21	0.23	0.37	0.37	0.27	0.20	0.17
	Minimum	0.08	0.18	0.04	0.07	0.06	0.04	0.09	0.13	0.23	0.22	0.27	0.15	0.14
	Maximum	0.46	0.36	0.40	0.32	0.48	0.55	0.37	0.35	0.51	0.60	0.27	0.25	0.19
Potassium (%)	# Samples	153	16	40	5	163	304	25	22	101	71	1	6	2
	Average	1.78	1.43	1.15	1.78	2.20	2.03	2.08	1.42	0.53	0.46	2.14	1.61	0.62
	Minimum	0.45	0.77	0.68	0.88	0.72	0.41	0.45	0.42	0.31	0.26	2.14	1.01	0.28
	Maximum	3.57	2.20	2.66	3.45	4.38	4.06	3.10	2.43	0.91	0.67	2.14	2.90	0.95
Relative Feed Value (%)	# Samples	163	12	64	7	66	332	28	27	6	6	0	1	5
	Average	102	105	128	99	92	96	89	89	377	185	n/a	58	89
	Minimum	60	86	60	60	51	53	64	66	256	0	n/a	58	75
	Maximum	167	135	245	140	126	152	114	162	470	276	n/a	58	101

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- All mineral data (C, P, K) was analyzed by wet chemistry
- Data collected from random feed samples submitted by Manitoba producers to Norwest/Bodycote Lab between 2000 and 2005.

		STRAW											
		Barley	Corn	Flax	Oats	Pea	Wheat	Meadow fescue	Perennial rye grass	Rye grass	Smooth brome grass	Tall fescue	Timothy
As Fed Moisture	# Samples	247	9	7	300	33	108	5	7	7	2	5	8
	Average	19.4	31.3	14.6	19.5	16.6	17.3	16.0	18.0	15.7	13.4	15.3	14.4
	Minimum	6.1	12.5	11.1	5.6	10.1	7.8	12.9	9.0	9.1	13.4	11.4	12.0
	Maximum	55.3	58.2	18.0	84.7	31.5	37.3	21.7	32.2	28.5	13.4	22.0	17.6
Crude Protein (%)	# Samples	240	9	7	267	33	107	5	9	7	2	5	8
	Average	5.5	5.7	6.7	5.3	6.5	4.4	8.4	7.3	7.4	11.4	10.1	5.1
	Minimum	1.4	4.4	3.0	1.6	4.2	1.3	7.6	3.3	5.8	11.4	7.4	1.8
	Maximum	12.6	8.3	13.0	14.0	10.6	11.8	9.2	13.2	9.3	11.4	11.5	6.9
Acid Detergent Fibre (%)	# Samples	241	9	7	268	34	107	5	9	7	2	5	8
	Average	49.4	45.6	53.1	49.4	48.3	51.4	45.3	42.8	44.9	38.1	44.2	43.9
	Minimum	32.3	36.3	31.2	30.2	35.0	31.8	42.8	36.7	39.9	38.1	39.0	38.6
	Maximum	60.9	50.8	70.3	60.8	58.1	59.0	47.5	51.5	51.3	38.1	48.2	47.6
Neutral Detergent Fibre (%)	# Samples	147	4	0	181	6	49	5	4	5	2	5	4
	Average	74.1	76.2	n/a	73.0	65.8	76.2	72.1	67.7	66.2	62.6	68.1	69.2
	Minimum	41.7	74.8	n/a	48.8	57.4	60.7	68.4	61.0	60.4	62.6	61.6	66.9
	Maximum	85.2	77.1	n/a	85.4	74.8	88.9	78.3	74.9	69.5	62.6	74.1	71.6
NEgain (Mcal/kg)	# Samples	176	9	7	181	31	78	0	6	7	0	4	7
	Average	0.20	0.54	0.00	0.20	0.32	0.10	n/a	0.31	0.31	n/a	0.29	0.37
	Minimum	-0.11	0.09	-0.65	-0.14	0.08	-0.23	n/a	0.06	0.07	n/a	0.18	0.23
	Maximum	0.72	0.84	0.83	0.68	0.47	0.65	n/a	0.55	0.50	n/a	0.50	0.55
NEmaint (Mcal/kg)	# Samples	219	9	7	250	34	107	0	6	7	0	4	7
	Average	0.84	1.24	0.70	0.85	1.04	0.77	n/a	1.01	1.01	n/a	0.99	1.07
	Minimum	0.40	0.79	0.05	0.41	0.78	0.47	n/a	0.76	0.77	n/a	0.88	0.93
	Maximum	1.42	1.54	1.53	1.57	1.35	1.56	n/a	1.25	1.20	n/a	1.20	1.25
Total Digestible Nutrients (%)	# Samples	241	9	7	268	34	107	5	9	7	2	5	8
	Average	45.2	56.6	35.2	46.5	46.3	42.8	55.1	52.8	49.6	57.5	54.4	53.0
	Minimum	30.8	49.3	9.5	28.2	35.9	26.4	54.0	44.8	37.9	57.5	51.3	45.6
	Maximum	63.8	65.4	67.8	69.3	59.8	66.9	56.3	60.3	54.9	57.5	58.3	58.8
Calcium (%)	# Samples	155	7	7	173	33	85	5	5	5	0	4	4
	Average	0.36	0.32	0.61	0.29	1.65	0.22	0.30	0.37	0.44	n/a	0.30	0.26
	Minimum	0.18	0.19	0.41	0.12	0.80	0.09	0.23	0.18	0.37	n/a	0.24	0.19
	Maximum	0.78	0.45	1.00	0.92	2.42	0.64	0.42	0.60	0.50	n/a	0.42	0.35
Phosphorus (%)	# Samples	155	7	7	173	33	85	5	5	5	0	4	4
	Average	0.09	0.17	0.11	0.10	0.09	0.08	0.22	0.17	0.13	n/a	0.14	0.09
	Minimum	0.03	0.06	0.03	0.02	0.04	0.02	0.18	0.05	0.07	n/a	0.09	0.05
	Maximum	0.30	0.42	0.27	0.30	0.16	0.28	0.26	0.30	0.20	n/a	0.22	0.12
Potassium (%)	# Samples	155	7	7	173	33	85	5	5	5	0	4	4
	Average	1.76	1.42	0.71	2.32	1.48	1.39	2.05	1.64	1.60	n/a	2.72	0.87
	Minimum	0.60	1.16	0.46	0.33	0.34	0.23	1.37	0.94	1.15	n/a	2.34	0.53
	Maximum	4.18	1.76	1.06	4.08	3.02	2.66	3.11	2.91	2.08	n/a	2.94	1.20
Relative Feed Value (%)	# Samples	147	4	0	181	6	49	5	4	5	2	5	4
	Average	63	64	n/a	64	72	60	67	77	77	88	74	75
	Minimum	49	60	n/a	47	57	45	60	61	68	88	65	68
	Maximum	142	68	n/a	118	90	89	72	92	84	88	87	82

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- All mineral data (C, P, K) was analyzed by wet chemistry
- Data collected from random feed samples submitted by Manitoba producers to Norwest/Bodycote Lab between 2000 and 2005.

For more information, contact:

- your local Manitoba Agriculture, Food and Rural Initiatives GO Centre or Office
- the Manitoba Agriculture, Food and Rural Initiatives website *www.manitoba.ca/agriculture*
- the Manitoba Forage Council website *www.mbforagecouncil.mb.ca*

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