

Manitoba Average Feed Values for the Cash Hay Producer



CASH HAY 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				Meadow Brome grass	Orchard grass	Perennial Rye grass	Smooth Brome grass	Tall Fescue	Timothy	Grass / Alfalfa	Clover	Clover/ grass
		1 st cut	2 nd cut	3 rd cut	All cuts	1 st cut	2 nd cut	3 rd cut	All cuts	All cuts						All cuts		
As Fed Moisture	# Samples	283	376	35	1138	314	195	10	1513	14	2	10	3	8	49	206	9	24
	Average	16.7	17.4	16.5	16.8	17.2	16.7	16.9	16.5	16.6	19.2	14.0	14.0	17.0	14.4	16.4	14.6	16.3
	Minimum	9.2	8.9	9.6	3.9	9.0	9.2	11.0	8.1	9.9	18.0	10.2	10.4	10.6	9.4	8.2	10.7	9.7
	Maximum	38.8	34.7	36.9	38.8	52.2	34.9	23.1	78.4	29.7	20.4	17.9	18.2	27.7	21.7	62.0	17.4	24.7
Crude Protein (%)	# Samples	283	381	36	1169	314	202	10	1549	15	3	10	4	10	48	204	10	23
	Average	19.3	21.6	23.5	20.3	16.0	19.6	22.0	16.1	10.8	14.2	8.5	12.1	11.6	8.2	13.2	16.5	14.8
	Minimum	10.5	9.7	14.6	7.7	5.6	8.8	14.3	4.4	4.8	10.2	5.8	5.4	8.0	4.9	5.9	11.6	7.7
	Maximum	28.4	28.8	29.8	29.8	25.3	25.8	25.5	26.2	22.7	20.8	12.9	19.8	24.1	14.4	28.2	22.1	23.3
Acid Detergent Fibre (%)	# Samples	287	383	36	1181	284	181	10	1393	15	3	10	4	10	49	208	10	24
	Average	36.6	32.1	26.7	34.2	17.0	16.7	16.9	16.5	41.2	38.1	40.6	39.5	39.7	40.6	37.8	36.5	40.0
	Minimum	22.9	20.4	18.2	18.2	9.0	9.2	11.0	8.1	30.8	34.8	35.2	35.1	29.3	26.7	30.5	27.9	29.1
	Maximum	54.1	53.2	39.3	57.1	37.6	34.9	23.1	78.4	55.0	42.2	45.6	47.5	46.2	49.8	51.7	47.5	56.6
Neutral Detergent Fibre (%)	# Samples	253	354	35	1043	286	190	10	1319	14	1	8	3	8	47	169	8	19
	Average	48.6	42.6	37.2	45.5	54.7	45.6	39.5	53.0	65.3	64.7	65.6	65.8	68.1	65.0	56.9	49.2	52.7
	Minimum	30.9	30.5	26.5	26.5	37.5	31.6	33.4	18.1	49.7	64.7	59.2	57.4	59.4	49.4	21.1	37.3	40.7
	Maximum	73.0	70.4	55.0	78.5	74.7	69.5	52.9	474.0	78.5	64.7	78.4	77.3	78.5	79.5	74.5	59.1	72.3
NEgain (Mcal/kg)	# Samples	227	304	28	965	283	179	10	1399	12	3	9	4	9	40	200	6	21
	Average	0.63	0.71	0.82	0.67	0.55	0.70	0.83	0.59	0.51	0.57	0.45	0.52	0.48	0.46	0.58	0.57	0.54
	Minimum	0.20	0.32	0.59	0.20	0.05	0.26	0.53	0.05	0.07	0.42	0.28	0.21	0.26	0.13	0.05	0.43	0.12
	Maximum	0.92	1.02	0.99	1.02	0.88	0.98	1.00	1.00	0.85	0.70	0.55	0.68	0.90	1.00	0.86	0.66	0.91
NEmaint (Mcal/kg)	# Samples	227	304	28	965	283	179	10	1399	13	3	9	4	9	40	200	6	21
	Average	1.33	1.41	1.52	1.37	1.25	1.40	1.53	1.29	1.17	1.27	1.15	1.22	1.18	1.16	1.28	1.27	1.24
	Minimum	0.90	1.02	1.29	0.90	0.75	0.96	1.23	0.75	0.63	1.12	0.98	0.91	0.96	0.83	0.75	1.13	0.82
	Maximum	1.62	1.72	1.69	1.72	1.58	1.68	1.70	1.70	1.55	1.40	1.25	1.38	1.60	1.70	1.56	1.36	1.61
Total Digestible Nutrients (%)	# Samples	287	383	36	1181	318	202	10	1559	15	3	10	4	10	49	207	10	24
	Average	59.2	62.9	67.1	61.1	57.6	62.9	67.5	58.8	56.0	59.1	55.3	57.6	58.7	56.6	59.2	59.2	56.2
	Minimum	42.7	42.6	58.3	31.1	45.0	45.6	57.8	14.3	46.1	56.0	48.0	51.9	52.9	42.1	46.3	51.9	37.5
	Maximum	71.2	75.0	74.8	75.0	69.3	71.6	74.2	74.2	65.1	62.5	60.2	62.0	70.7	74.6	69.0	67.2	71.0
Calcium (%)	# Samples	76	84	7	391	87	54	1	634	5	3	5	1	4	28	79	2	13
	Average	1.57	1.63	1.59	1.59	1.17	1.46	1.53	1.19	0.51	0.47	0.33	0.28	0.37	0.33	0.81	1.28	1.01
	Minimum	0.63	0.60	1.22	0.41	0.42	0.80	1.53	0.20	0.25	0.29	0.30	0.28	0.22	0.15	0.25	1.15	0.41
	Maximum	2.58	2.30	2.13	2.89	1.92	2.33	1.53	2.62	1.14	0.69	0.36	0.28	0.46	0.60	1.58	1.40	1.52
Phosphorus (%)	# Samples	76	84	7	391	87	54	1	634	5	3	5	1	4	28	79	2	13
	Average	0.24	0.23	0.25	0.23	0.21	0.22	0.21	0.20	0.15	0.19	0.15	0.23	0.12	0.16	0.19	0.23	0.18
	Minimum	0.09	0.11	0.21	0.09	0.05	0.13	0.21	0.05	0.10	0.12	0.10	0.23	0.09	0.10	0.08	0.14	0.10
	Maximum	0.45	0.39	0.34	0.45	0.39	0.39	0.21	0.40	0.24	0.23	0.20	0.23	0.16	0.31	0.44	0.31	0.24
Potassium (%)	# Samples	76	84	7	391	87	54	1	634	5	3	5	1	4	28	79	2	13
	Average	2.32	2.21	2.33	2.24	2.09	2.13	2.16	1.99	1.93	1.96	1.42	2.85	1.97	1.47	1.93	2.27	1.99
	Minimum	0.95	0.59	2.05	0.59	0.54	0.87	2.16	0.54	1.40	1.19	0.21	2.85	1.48	0.53	0.75	1.83	1.38
	Maximum	3.50	3.27	2.50	4.05	3.25	2.87	2.16	3.33	2.41	2.66	2.05	2.85	2.73	2.74	3.72	2.70	2.98
Relative Feed Value (%)	# Samples	253	354	35	1044	287	191	10	1322	15	2	8	4	9	47	167	8	20
	Average	120	146	175	134	102	134	163	109	84	89	82	85	83	83	98	118	105
	Minimum	60	70	100	60	58	68	102	58	55	81	63	62	63	59	61	86	58
	Maximum	214	218	263	263	170	201	201	201	120	97	94	100	122	128	142	167	151

- 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.

		STRAW											
		Barley	Corn	Flax	Oats	Pea	Wheat	Meadow fescue	Perennial rye grass	Rye grass	Smooth Bromegrass	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

- All analyte values are shown on a dry matter basis unless otherwise specified
- All mineral data 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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