

FORAGE TESTING LABORATORY
 DAIRY ONE, INC.
 730 WARREN ROAD
 ITHACA, NEW YORK 14850
 607-257-1272 (fax 607-257-1350)

 |Sample Description |Farm|Code| Sample |
 |SMALL GRAIN HAY | |171 |28821480|

FHR GH33

 |Sampled | Recvd |Printed |ST|CO|
 | |10/03/22|10/04/22| | |

FHR GH33
 KEVIN RICHARDS -
 3459 SE BALDWIN DR
 MADRAS, OR 97741

 ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.36	3.00
ME, 1X	1.17	2.58
NEL, 3X	0.67	1.49
NEM, 3X	0.71	1.57
NEG, 3X	0.44	0.97
-----	-----	-----
TDN1X, %	69	
-----	-----	-----

COMMENTS:
 1.NITRATES BY RQ FLEX.

 Analysis Results

Components	As Fed	DM
% Moisture	10.2	
% Dry Matter	89.8	
% Crude Protein	8.5	9.5
% Available Protein	8.0	8.9
% ADICP	.5	.6
% Adjusted Crude Protein	8.5	9.5
Soluble Protein % CP		56
Degradable Protein%CP		81
% NDICP	1.9	2.1
% ADF	21.9	24.4
% aNDF	36.2	40.3
% Lignin	2.8	3.1
% NFC	37.2	41.4
% Starch	2.7	3.0
% WSC (Water Sol. Carbs.)	27.5	30.7
% ESC (Simple Sugars)	14.4	16.0
% Crude Fat	2.0	2.2
% Total Fatty Acids	.70	.78
% RUFAL	.36	.40
% Ash	5.92	6.59
% TDN	61	67
NEL, Mcal/Lb	.63	.70
NEM, Mcal/Lb	.61	.68
NEG, Mcal/Lb	.37	.42
Relative Feed Value		161
% Calcium	.17	.19
% Phosphorus	.20	.22
% Magnesium	.10	.11
% Potassium	1.65	1.84
% Sulfur	.23	.26
% Chloride Ion	.48	.53
% Nitrates	.11	.12
PPM Nitrate-Nitrogen	246	274
IVTD 30hr, % of DM		78
NDFD 30hr, % of NDF		45
kd, %/hr		2.79
% Lysine	.25	.28
% Methionine	.13	.14
Horse DE, Mcal/Lb	1.11	1.23
-----	-----	-----

Nitrates and Dairy Cattle

Nitrate is a major precursor of plant protein. At certain times, environmental conditions can cause excessive accumulation in the plant. This includes heavy nitrogen fertilization, drought, low light intensity, and low temperatures. Crops susceptible to nitrate accumulation include sorghum, sorghum sudan, corn forage, small grain forages and weeds. Ensiling suspect forages can often reduce nitrate concentration by up to 50%.

Nitrate levels (DM Basis)

% Nitrate	ppm Nitrate Nitrogen	Comments
< 0.44	< 1012	Safe to feed
0.44 - 0.66	1012 - 1518	Safe for nonpregnant animals. Limit to 50% of ration dry matter intake. Animals may go off feed, experience a slow drop in milk production or abort in some cases.
0.66 - 0.88	1518 - 2024	Limit to 50% of ration dry matter. Above symptoms, some death.
0.88 - 1.54	2024 - 3542	Limit to 35-40% of ration dry matter. DO NOT FEED TO PREGNANT ANIMALS.
1.54 - 1.76	3542 - 4048	Limit to 25% of ration dry matter. DO NOT FEED TO PREGNANT ANIMALS.
> 1.76	>4048	TOXIC - DO NOT FEED.

Symptoms

- general weakness
- diarrhea
- frequent urination
- depressed appetite
- accelerated respiratory and pulse rates
- blue color of mucous membranes, muzzle, tongue and udder
- depressed growth or milk production
- trembling
- staggering
- frothing from mouth
- abortion

Recommendations

As stated above, the most effective management strategy is to restrict the intake of high nitrate feeds. Contact your veterinarian and feed representative for assistance in reformulating your ration.

HORSES are more tolerant of nitrates than cattle. A practical upper safe limit is 1.5% Nitrate or 3450ppm Nitrate Nitrogen.

FORAGE TESTING LABORATORY
 DAIRY ONE, INC.
 730 WARREN ROAD
 ITHACA, NEW YORK 14850
 607-257-1272 (fax 607-257-1350)

Sample Description	Farm Code	Sample
SMALL GRAIN HAY	171	28821490
FHR GH31		

Sampled	Recvd	Printed	ST	CO
	10/03/22	10/04/22		

FHR GH31
 KEVIN RICHARDS -
 3459 SE BALDWIN DR
 MADRAS, OR 97741

ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.38	3.04
ME, 1X	1.19	2.62
NEL, 3X	0.69	1.52
NEM, 3X	0.73	1.60
NEG, 3X	0.45	1.00
TDN1X, %	69	

COMMENTS:
 1.NITRATES BY RQ FLEX.

Analysis Results		
Components	As Fed	DM
% Moisture	9.0	
% Dry Matter	91.0	
% Crude Protein	10.0	11.0
% Available Protein	9.3	10.2
% ADICP	.7	.8
% Adjusted Crude Protein	10.0	11.0
Soluble Protein % CP		50
Degradable Protein%CP		78
% NDICP	2.1	2.3
% ADF	20.4	22.4
% aNDF	34.3	37.7
% Lignin	2.8	3.0
% NFC	38.3	42.1
% Starch	8.3	9.1
% WSC (Water Sol. Carbs.)	24.9	27.4
% ESC (Simple Sugars)	11.9	13.1
% Crude Fat	2.2	2.4
% Total Fatty Acids	.80	.88
% RUFAL	.49	.54
% Ash	6.20	6.81
% TDN	62	68
NEL, Mcal/Lb	.65	.71
NEM, Mcal/Lb	.63	.70
NEG, Mcal/Lb	.39	.43
Relative Feed Value		176
% Calcium	.25	.27
% Phosphorus	.24	.26
% Magnesium	.11	.12
% Potassium	1.63	1.79
% Sulfur	.25	.27
% Chloride Ion	.45	.49
% Nitrates	.10	.11
PPM Nitrate-Nitrogen	234	257
IVTD 30hr, % of DM		79
NDFD 30hr, % of NDF		43
kd, %/hr		2.69
% Lysine	.30	.33
% Methionine	.15	.17
Horse DE, Mcal/Lb	1.14	1.26

FORAGE TESTING LABORATORY
 DAIRY ONE, INC.
 730 WARREN ROAD
 ITHACA, NEW YORK 14850
 607-257-1272 (fax 607-257-1350)

Sample Description	Farm Code	Sample
SMALL GRAIN HAY	171	28821500
FHR GHM2		

Sampled	Recvd	Printed	ST	CO
	10/03/22	10/04/22		

 Analysis Results

FHR GHM2
 KEVIN RICHARDS -
 3459 SE BALDWIN DR
 MADRAS, OR 97741

Components	As Fed	DM
% Moisture	9.3	
% Dry Matter	90.7	
% Crude Protein	10.6	11.7
% Available Protein	10.0	11.0
% ADICP	.6	.7
% Adjusted Crude Protein	10.6	11.7
Soluble Protein % CP		49
Degradable Protein%CP		76
% NDICP	2.6	2.9
% ADF	21.2	23.4
% aNDF	34.9	38.4
% Lignin	3.3	3.7
% NFC	36.4	40.1
% Starch	3.3	3.7
% WSC (Water Sol. Carbs.)	26.9	29.7
% ESC (Simple Sugars)	12.4	13.7
% Crude Fat	2.3	2.5
% Total Fatty Acids	.96	1.06
% RUFAL	.42	.46
% Ash	6.60	7.28
% TDN	64	71
NEL, Mcal/Lb	.67	.74
NEM, Mcal/Lb	.67	.74
NEG, Mcal/Lb	.42	.46
Relative Feed Value		171
% Calcium	.35	.39
% Phosphorus	.20	.22
% Magnesium	.15	.17
% Potassium	1.52	1.68
% Sulfur	.24	.26
% Chloride Ion	.61	.67
% Nitrates	.14	.16
PPM Nitrate-Nitrogen	326	359
IVTD 30hr, % of DM		81
NDFD 30hr, % of NDF		50
kd, %/hr		3.59
% Lysine	.31	.35
% Methionine	.16	.18
Horse DE, Mcal/Lb	1.12	1.24

 ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.36	3.00
ME, 1X	1.17	2.58
NEL, 3X	0.68	1.49
NEM, 3X	0.71	1.57
NEG, 3X	0.44	0.97
TDN1X, %	68	

COMMENTS:
 1.NITRATES BY RQ FLEX.

FORAGE TESTING LABORATORY
 DAIRY ONE, INC.
 730 WARREN ROAD
 ITHACA, NEW YORK 14850
 607-257-1272 (fax 607-257-1350)

 |Sample Description |Farm|Code| Sample |
 |SMALL GRAIN HAY | |171 |28821510|

FHR GHSB12

 |Sampled | Recvd |Printed |ST|CO|
 | |10/03/22|10/04/22| | |

FHR GHSB12
 KEVIN RICHARDS -
 3459 SE BALDWIN DR
 MADRAS, OR 97741

Analysis Results		
Components	As Fed	DM
% Moisture	8.4	
% Dry Matter	91.6	
% Crude Protein	9.7	10.6
% Available Protein	8.9	9.7
% ADICP	.8	.9
% Adjusted Crude Protein	9.7	10.6
Soluble Protein % CP		53
Degradable Protein%CP		80
% NDICP	2.0	2.1
% ADF	27.3	29.8
% aNDF	39.5	43.1
% Lignin	3.5	3.8
% NFC	35.0	38.2
% Starch	5.2	5.7
% WSC (Water Sol. Carbs.)	19.0	20.8
% ESC (Simple Sugars)	11.4	12.5
% Crude Fat	1.7	1.8
% Total Fatty Acids	.84	.92
% RUFAL	.50	.55
% Ash	5.76	6.29
% TDN	59	64
NEL, Mcal/Lb	.60	.66
NEM, Mcal/Lb	.58	.63
NEG, Mcal/Lb	.34	.37
Relative Feed Value		142
% Calcium	.40	.44
% Phosphorus	.24	.26
% Magnesium	.13	.14
% Potassium	1.67	1.82
% Sulfur	.22	.24
% Chloride Ion	.43	.47
% Nitrates	< 0.03	< 0.03
PPM Nitrate-Nitrogen	< 55	< 55
IVTD 30hr, % of DM		75
NDFD 30hr, % of NDF		42
kd, %/hr		2.64
% Lysine	.29	.31
% Methionine	.15	.16
Horse DE, Mcal/Lb	1.09	1.19

ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.32	2.91
ME, 1X	1.13	2.49
NEL, 3X	0.65	1.43
NEM, 3X	0.68	1.50
NEG, 3X	0.41	0.91
TDN1X, %	66	

COMMENTS:
 1. NITRATES BY RQ FLEX.

FORAGE TESTING LABORATORY
 DAIRY ONE, INC.
 730 WARREN ROAD
 ITHACA, NEW YORK 14850
 607-257-1272 (fax 607-257-1350)

 |Sample Description |Farm|Code| Sample |
 |SMALL GRAIN HAY | |171 |28821520|

FHR GH3

 |Sampled | Recvd |Printed |ST|CO|
 | |10/03/22|10/04/22| | |

FHR GH3
 KEVIN RICHARDS -
 3459 SE BALDWIN DR
 MADRAS, OR 97741

 ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.28	2.83
ME, 1X	1.09	2.40
NEL, 3X	0.62	1.37
NEM, 3X	0.65	1.44
NEG, 3X	0.39	0.86

TDN1X, %	64	

COMMENTS:
 1.NITRATES BY RQ FLEX.

 Analysis Results

Components	As Fed	DM
% Moisture	8.5	
% Dry Matter	91.5	
% Crude Protein	11.1	12.2
% Available Protein	10.4	11.4
% ADICP	.7	.8
% Adjusted Crude Protein	11.1	12.2
Soluble Protein % CP		48
Degradable Protein%CP		79
% NDICP	2.5	2.8
% ADF	26.8	29.3
% aNDF	42.7	46.7
% Lignin	3.6	4.0
% NFC	28.4	31.1
% Starch	6.7	7.4
% WSC (Water Sol. Carbs.)	15.5	17.0
% ESC (Simple Sugars)	9.1	10.0
% Crude Fat	1.9	2.0
% Total Fatty Acids	.66	.72
% RUFAL	.48	.52
% Ash	7.35	8.03
% TDN	58	63
NEL, Mcal/Lb	.58	.63
NEM, Mcal/Lb	.56	.61
NEG, Mcal/Lb	.32	.35
Relative Feed Value		132
% Calcium	.29	.32
% Phosphorus	.24	.26
% Magnesium	.13	.14
% Potassium	1.92	2.10
% Sulfur	.30	.33
% Chloride Ion	.61	.67
% Nitrates	.47	.51
PPM Nitrate-Nitrogen	1,062	1,161
IVTD 30hr, % of DM		74
NDFD 30hr, % of NDF		44
kd, %/hr		2.83
% Lysine	.33	.36
% Methionine	.17	.18
Horse DE, Mcal/Lb	1.01	1.11
