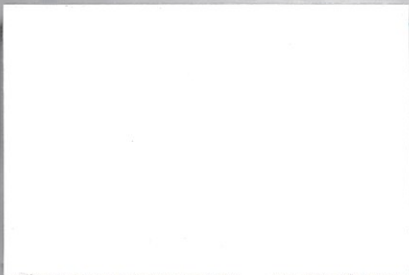


DATE: 01/17/2017
 SAMPLE NO: 2017 01/17/2017



	NRC 2001	
	Mcal/Lb	Mcal/Kg
DE, 1X	1.08	2.38
ME, 1X	0.89	1.96
NEL, 3X	0.49	1.08
NEM, 3X	0.50	1.11
NEG, 3X	0.25	0.55
TDN1X, %	51	

COMMENTS
 Nitrates by RQ Flex.

% Adjusted Crude Protein	16.3	17.8
Soluble Protein % CP		41
% NDICP	4.1	4.5
% ADF	38.4	41.9
% aNDFom	45.8	50.0
% Lignin	10.6	11.6
% NFC	19.5	21.3
% Starch	1.0	1.1
% ESC (Simple Sugars)	3.1	3.4
% Crude Fat	1.4	1.6
% Ash	7.32	8.00
% TDN	47	51
NEL, Mcal/Lb	.46	.50
NEM, Mcal/Lb	.39	.43
NEG, Mcal/Lb	.16	.18
Relative Feed Value		105
% Calcium	1.02	1.12
% Phosphorus	.28	.31
% Magnesium	.21	.23
% Potassium	1.54	1.68
% Sodium	.073	.080
PPM Iron	165	180
PPM Zinc	24	27
PPM Copper	8	9
PPM Manganese	57	63
PPM Molybdenum	.1	.1
% Sulfur	.17	.19
% Chloride Ion	.57	.62
DCAD, mEq/100g		17
% Nitrates	.04	.04
PPM Nitrate-Nitrogen	83	90
Horse DE, Mcal/Lb	.92	1.01

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DATE SAMPLED	LAB RECEIVED	DATE PRINTED	LAB USE
	04/02/18	04/05/18	.886

ADDITIONAL DESCRIPTIONS

ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.17	2.57
ME, 1X	0.97	2.15
NEL, 3X	0.55	1.20
NEM, 3X	0.57	1.25
NEG, 3X	0.31	0.69
TDN1X, %	55	

COMMENTS

Nitrates by RQ Flex.

KIND DESCRIPTION	CODE	LAB SAMPLE
LEGUME HAY	100	24664720
DESCRIPTION 1		
MARIES CO 2017 ALFALFA		
ANALYSIS RESULTS		
COMPONENTS	AS SAMPLED BASIS	DRY MATTER BASIS
% Moisture	11.4	
% Dry Matter	88.6	
% Crude Protein	20.6	23.2
% Available Protein	18.1	20.4
% ADICP	2.5	2.8
% Adjusted Crude Protein	18.9	21.4
Soluble Protein % CP		35
% NDICP	7.5	8.4
% ADF	29.7	33.5
% aNDFom	39.4	44.5
% Lignin	8.1	9.2
% NFC	18.0	20.3
% Starch	1.3	1.5
% ESC (Simple Sugars)	2.0	2.3
% Crude Fat	1.4	1.6
% Ash	9.23	10.42
% TDN	48	55
NEL, Mcal/Lb	.49	.55
NEM, Mcal/Lb	.43	.48
NEG, Mcal/Lb	.21	.23
Relative Feed Value		131
% Calcium	1.16	1.31
% Phosphorus	.36	.41
% Magnesium	.36	.41
% Potassium	1.57	1.77
% Sodium	.010	.011
PPM Iron	472	533
PPM Zinc	24	27
PPM Copper	9	11
PPM Manganese	103	116
PPM Molybdenum	< 0.1	< 0.1
% Sulfur	.20	.23
% Chloride Ion	.76	.86
DCAD, mEq/100g		7
% Nitrates	.05	.05
PPM Nitrate-Nitrogen	107	121
Horse DE, Mcal/Lb	.91	1.02

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DATE SAMPLED	LAB RECEIVED	DATE PRINTED	LAB USE
	04/02/18	04/06/18	.937
ADDITIONAL DESCRIPTIONS			
TIMOTHY/ BROME 2017			

	RC 2001	
	Mcal/Lb	Mcal/Kg
DE, 1X	1.02	2.24
ME, 1X	0.82	1.81
NEL, 3X	0.45	0.98
NEM, 3X	0.45	0.99
NEG, 3X	0.20	0.45
TDN1X, %	51	

COMMENTS

This sample was tested twice for Soluble Protein to confirm the value listed.

KIND DESCRIPTION	CODE	LAB SAMPLE
GRASS HAY	103	24664690
DESCRIPTION 1		
TIMOTHY/ BROME 2017		
ANALYSIS RESULTS		
COMPONENTS	AS SAMPLED BASIS	DRY MATTER BASIS
% Moisture	6.3	
% Dry Matter	93.7	
% Crude Protein	6.5	7.0
% Adjusted Crude Protein	6.5	7.0
Soluble Protein % CP		29
% ADF	43.8	46.7
% aNDF	61.5	65.6
% Lignin	8.5	9.1
% NFC	16.5	17.6
% Crude Fat	2.1	2.2
% Ash	7.19	7.67
% TDN	48	51
NEL, Mcal/Lb	.40	.43
NEM, Mcal/Lb	.39	.41
NEG, Mcal/Lb	.16	.17
Relative Feed Value		74
% Calcium	.35	.38
% Phosphorus	.18	.19
% Magnesium	.15	.16
% Potassium	1.18	1.26
% Sodium	.005	.005
PPM Iron	227	242
PPM Zinc	13	13
PPM Copper	6	6
PPM Manganese	53	56
PPM Molybdenum	1.5	1.6
% Sulfur	.10	.10
Horse DE, Mcal/Lb	.83	.89



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DATE SAMPLED	LAB RECEIVED	DATE PRINTED	LAB USE
	04/02/18	04/05/18	.922
ADDITIONAL DESCRIPTIONS			
2017 BOONE CO BROME			

NRC 2001		
	Mcal/Lb	Mcal/Kg
DE, 1X	1.15	2.54
ME, 1X	0.96	2.11
NEL, 3X	0.54	1.18
NEM, 3X	0.56	1.23
NEG, 3X	0.30	0.66
TDN1X, %	57	

KIND DESCRIPTION	CODE	LAB SAMPLE
GRASS HAY	103	24664700
DESCRIPTION 1		
2017 BOONE CO BROME		
ANALYSIS RESULTS		
COMPONENTS	AS SAMPLED BASIS	DRY MATTER BASIS
% Moisture	7.9	
% Dry Matter	92.2	
% Crude Protein	11.7	12.7
% Adjusted Crude Protein	11.7	12.7
Soluble Protein % CP		31
% ADF	33.1	35.9
% aNDF	52.7	57.1
% Lignin	7.3	7.9
% NFC	17.5	19.0
% Crude Fat	3.0	3.3
% Ash	7.23	7.84
% TDN	52	57
NEL, Mcal/Lb	.49	.53
NEM, Mcal/Lb	.47	.51
NEG, Mcal/Lb	.24	.26
Relative Feed Value		99
% Calcium	.80	.87
% Phosphorus	.22	.23
% Magnesium	.33	.36
% Potassium	1.25	1.35
% Sodium	.010	.011
PPM Iron	154	168
PPM Zinc	22	23
PPM Copper	7	8
PPM Manganese	49	53
PPM Molybdenum	1.0	1.1
% Sulfur	.17	.19
Horse DE, Mcal/Lb	.92	.99

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DATE SAMPLED	LAB RECEIVED	DATE PRINTED	LAB USE
	04/02/18	04/12/18	.933
ADDITIONAL DESCRIPTIONS			
2017 LESPEDEZA/ FESCUE			

	C 2001	
	Mcal/Lb	Mcal/Kg
DE, 1X	0.88	1.94
ME, 1X	0.69	1.51
NEL, 3X	0.36	0.79
NEM, 3X	0.34	0.76
NEG, 3X	0.10	0.22
TDN1X, %	45	

COMMENTS

This sample was tested twice for Lignin, Acid Detergent Fiber and Crude Fat to confirm the values listed.

KIND DESCRIPTION	CODE	LAB SAMPLE
GRASS HAY	103	24664730
DESCRIPTION 1		
2017 LESPEDEZA/ FESCUE		
ANALYSIS RESULTS		
COMPONENTS	AS SAMPLED BASIS	DRY MATTER BASIS
% Moisture	6.7	
% Dry Matter	93.3	
% Crude Protein	8.6	9.2
% Available Protein	5.2	5.5
% ADICP	3.4	3.6
% Adjusted Crude Protein	6.1	6.5
Soluble Protein % CP		27
% NDICP	4.5	4.8
% ADF	46.9	50.2
% aNDFom	67.4	72.2
% Lignin	10.9	11.7
% NFC	11.8	12.6
% Starch	.7	.7
% ESC (Simple Sugars)	1.4	1.5
% Crude Fat	1.0	1.1
% Ash	4.55	4.87
% TDN	42	45
NEL, Mcal/Lb	.30	.32
NEM, Mcal/Lb	.27	.29
NEG, Mcal/Lb	.05	.05
Relative Feed Value		64
% Calcium	.55	.59
% Phosphorus	.13	.14
% Magnesium	.17	.18
% Potassium	.69	.74
% Sodium	.006	.007
PPM Iron	69	74
PPM Zinc	13	14
PPM Copper	7	7
PPM Manganese	59	63
PPM Molybdenum	.4	.4
% Sulfur	.10	.11
% Chloride Ion	.12	.13
DCAD, mEq/100g		9
Horse DE, Mcal/Lb	.79	.84



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DATE SAMPLED	LAB RECEIVED	DATE PRINTED	LAB USE
	04/02/18	04/04/18	.927
ADDITIONAL DESCRIPTIONS			
PUGH 2017 ALFALFA MIX			

	NRC 2001	
	Mcal/Lb	Mcal/Kg
DE, 1X	1.07	2.35
ME, 1X	0.87	1.92
NEL, 3X	0.48	1.06
NEM, 3X	0.49	1.08
NEG, 3X	0.24	0.53
TDN1X, %	53	

COMMENTS

Nitrates by RQ Flex.

KIND DESCRIPTION	CODE	LAB SAMPLE
MML HAY	101	24664710
DESCRIPTION 1		
PUGH 2017 ALFALFA MIX		
ANALYSIS RESULTS		
COMPONENTS	AS SAMPLED BASIS	DRY MATTER BASIS
% Moisture	7.3	
% Dry Matter	92.7	
% Crude Protein	8.0	8.6
% Adjusted Crude Protein	8.0	8.6
Soluble Protein % CP		34
% ADF	41.5	44.8
% aNDF	59.8	64.5
% NFC	14.8	16.0
% TDN	50	53
NEL, Mcal/Lb	.42	.46
NEM, Mcal/Lb	.42	.45
NEG, Mcal/Lb	.19	.20
Relative Feed Value		78
% Calcium	.45	.49
% Phosphorus	.20	.22
% Magnesium	.24	.25
% Potassium	1.21	1.30
% Sodium	.007	.007
PPM Iron	117	127
PPM Zinc	19	21
PPM Copper	5	6
PPM Manganese	85	92
PPM Molybdenum	< 0.1	< 0.1
% Sulfur	.14	.15
% Nitrates	< .01	< 0.03
PPM Nitrate-Nitrogen	< 70	< 70
Horse DE, Mcal/Lb	.82	.88

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DATE SAMPLED	LAB RECEIVED	DATE PRINTED	LAB USE
	04/02/18	04/04/18	.939
ADDITIONAL DESCRIPTIONS			
PUGH 2016 FESCUE			

	RC 2001	
	Mcal/Lb	Mcal/Kg
DE, 1X	1.11	2.45
ME, 1X	0.92	2.02
NEL, 3X	0.51	1.12
NEM, 3X	0.53	1.16
NEG, 3X	0.27	0.60
TDN1X, %	56	

KIND DESCRIPTION	CODE	LAB SAMPLE
GRASS HAY	103	24664740
DESCRIPTION 1		
PUGH 2016 FESCUE		
ANALYSIS RESULTS		
COMPONENTS	AS SAMPLED BASIS	DRY MATTER BASIS
% Moisture	6.1	
% Dry Matter	93.9	
% Crude Protein	7.8	8.3
% Adjusted Crude Protein	7.8	8.3
Soluble Protein % CP		30
% ADF	48.5	51.7
% aNDF	65.7	70.0
% NFC	11.7	12.5
% TDN	53	56
NEL, Mcal/Lb	.40	.43
NEM, Mcal/Lb	.45	.48
NEG, Mcal/Lb	.21	.23
Relative Feed Value		65
% Calcium	.44	.47
% Phosphorus	.12	.13
% Magnesium	.17	.18
% Potassium	.62	.66
% Sodium	.004	.004
PPM Iron	92	98
PPM Zinc	12	13
PPM Copper	6	6
PPM Manganese	84	89
PPM Molybdenum	.2	.2
% Sulfur	.11	.11
Horse DE, Mcal/Lb	.79	.84

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DATE SAMPLED	LAB RECEIVED	DATE PRINTED	LAB USE
	04/02/18	04/11/18	.919

ADDITIONAL DESCRIPTIONS			
2016 LESPEDEZA ROUND			

NRC 2001		
	Mcal/Lb	Mcal/Kg
DE, 1X	1.03	2.27
ME, 1X	0.83	1.84
NEL, 3X	0.45	1.00
NEM, 3X	0.46	1.02
NEG, 3X	0.21	0.47
TDN1X, %	50	

COMMENTS

This sample was tested twice for Lignin and Acid Detergent Fiber to confirm the values listed.

KIND DESCRIPTION	CODE	LAB SAMPLE
MMG HAY	102	24664680
DESCRIPTION 1		
2016 LESPEDEZA ROUND		
ANALYSIS RESULTS		
COMPONENTS	AS SAMPLED BASIS	DRY MATTER BASIS
% Moisture	8.1	
% Dry Matter	91.9	
% Crude Protein	12.0	13.0
% Adjusted Crude Protein	12.0	13.0
Soluble Protein % CP		24
% ADF	40.5	44.1
% aNDF	55.6	60.5
% Lignin	11.4	12.4
% NFC	18.1	19.7
% Crude Fat	1.3	1.4
% Ash	5.00	5.44
% TDN	46	50
NEL, Mcal/Lb	.41	.45
NEM, Mcal/Lb	.36	.39
NEG, Mcal/Lb	.14	.15
Relative Feed Value		84
% Calcium	.68	.74
% Phosphorus	.20	.22
% Magnesium	.18	.20
% Potassium	1.13	1.23
% Sodium	.010	.011
PPM Iron	97	106
PPM Zinc	20	21
PPM Copper	8	9
PPM Manganese	70	76
PPM Molybdenum	< 0.1	< 0.1
% Sulfur	.14	.15
Horse DE, Mcal/Lb	.89	.96