



LEGUME AND GRASS HAY AND HAYLAGE

• = results by NIR
 x = results by chemistry
 ■ = results by chemistry and NIR

ANALYSIS RESULTS	NIR					NIR Plus	Standard	Standard +	CPM Plus	RFV	Basic	TAG				
	1	2	3	4	5	*		Energies			NDF	1	2	3	4	
Moisture / Dry Matter	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x
PROTEINS																
Crude Protein	•	•	•	x	x		x	x	x	x	x	x	x	x	x	x
Adjusted Protein	•	•	•	•	•		x	x	x	x	x					
Soluble Protein	•	•	•	•	•		x	x	x							
Ammonia (CPE)	•	•	•	•	•											
ADF Protein (ADICP) / NDF Protein (NDICP)	•	•	•	•	•			x	x							
Rumen Degradable Protein	•	•	•	•	•		x	x	x							
FIBER																
ADF / aNDF	•	•	•	x	x		x	x	x	x	x					
aNDFom	•	•	•	•	•											
Crude Fiber														x	x	x
Lignin	•	•	•	•	•			x	x							
NDF Digestibility (30, 120, 240 hr)						•										
uNDF (30, 120, 240 hr)						•										
CARBOHYDRATES																
Silage Acids (fermented feeds only)						•										
Ethanol Soluble CHO (Sugar)	•	•	•	•	•				x							
WaterSoluble CHO (Sugar)	•	•	•	•	•											
Starch	•	•	•	•	•				x							
Soluble Fiber						•										
Starch Dig. (7 hr, 4 mm)																
Fatty Acids , Total and Profile						•										
Crude Fat	•	•	•	•	•			x	x					x	x	x
MINERALS																
Ash	•	•	•	•	•		x	x	x		x			x	x	x
Macro Minerals (Ca, P, Mg, K)	•	x	x	x	•		x	x	x		x				x	
Micro Minerals (Fe, Mn, Zn, Cu)		x	x	x			x	x	x		x				x	
Tag Minerals (Ca, P)														x		x
Sulfur, Chloride, DCAD calculation			x						x							
QUALITATIVE (fermented feeds only)																
Volatile Fatty Acids						•										
Soil Contamination Probability						•										
Nitrate Probability						•										
NIR Statistical Confidence						•										
ENERGY & INDEX CALCULATIONS																
pH (fermented feeds only)	•	•	•	•	•		x	x	x		x					
TDN	•	•	•	•	•		■	x	x	■	■					
Net Energy Lactation, Maintenance, Gain	•	•	•	•	•		■	x	x	■	■					
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin *2.4)						•										
NDF Dig. Rate (Kd, %HR, uNDF)	•	•	•	•	•		■	■	■	■	■	■	■	■	■	■
Starch Dig. Rate (Kd, %HR Mertens)																
Relative Feed Value	•	•	•	•	•		x	x	x	x	x					
Relative Feed Quality						•										
Milk per Ton						•										
Dig. Organic Matter Index						•										
Non Fiber Carbohydrates	•	•	•	•	•		■	x	x		■					
Non Structural Carbohydrates	•	•	•	•	•				x							
CNCPS/CPM Lignin Factor						•										
Summative Index % (Mass Balance)						•										

*NIR 1, 2 or 3 package with the plus option will include all fields needed for the CNCPS model.



SMALL GRAIN SILAGE HAY AND HAYLAGE

• = results by NIR
 x = results by chemistry
 ■ = results by chemistry and NIR

ANALYSIS RESULTS	NIR					NIR Plus Option	Standard	Standard + Energies	CPM Plus	RFV	Basic NDF	TAG			
	1	2	3	4	5							1	2	3	4
Moisture / Dry Matter	x	x	x	x	x		x	x	x	x	x	x	x	x	x
PROTEINS															
Crude Protein	•	•	•	x	x		x	x	x	x	x	x	x	x	x
Adjusted Protein	•	•	•	•	•		x	x	x	x	x				
Soluble Protein	•	•	•	•	•		x	x	x						
Ammonia (CPE)	•	•	•	•	•										
ADF Protein (ADICP) / NDF Protein (NDICP)	•	•	•	•	•			x	x						
Rumen Degradable Protein	•	•	•	•	•		x	x	x						
FIBER															
ADF / aNDF	•	•	•	x	x		x	x	x	x	x				
aNDFom	•	•	•	•	•										
Crude Fiber													x	x	x
Lignin	•	•	•	•	•			x	x						
NDF Digestibility (30, 120, 240 hr)						•									
uNDF (30, 120, 240 hr)						•									
CARBOHYDRATES															
Silage Acids (fermented feeds only)						•									
Ethanol Soluble CHO (Sugar)	•	•	•	•	•				x						
WaterSoluble CHO (Sugar)	•	•	•	•	•										
Starch	•	•	•	•	•				x						
Soluble Fiber						•									
Starch Dig. (7 hr, 4 mm)															
Fatty Acids , Total and Profile						•									
Crude Fat	•	•	•	•	•			x	x				x	x	x
MINERALS															
Ash	•	•	•	•	•		x	x	x		x		x	x	x
Macro Minerals (Ca, P, Mg, K)	•	x	x	x	•		x	x	x		x			x	
Micro Minerals (Fe, Mn, Zn, Cu)		x	x	x			x	x	x		x			x	
Tag Minerals (Ca, P)													x	x	
Sulfur, Chloride, DCAD calculation			x						x						
QUALITATIVE (fermented feeds only)															
Volatile Fatty Acids						•									
Soil Contamination Probability						•									
Nitrate Probability															
NIR Statistical Confidence						•									
ENERGY & INDEX CALCULATIONS															
pH (fermented feeds only)	•	•	•	•	•		x	x	x		x				
TDN	•	•	•	•	•		■	x	x	■	■				
Net Energy Lactation, Maintenance, Gain	•	•	•	•	•		■	x	x	■	■				
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin *2.4)						•									
NDF Dig. Rate (Kd, %HR, uNDF)	•	•	•	•	•		■	■	■	■	■	■	■	■	■
Starch Dig. Rate (Kd, %HR Mertens)															
Relative Feed Value	•	•	•	•	•		x	x	x	x	x				
Relative Feed Quality						•									
Milk per Ton						•									
Dig. Organic Matter Index						•									
Non Fiber Carbohydrates	•	•	•	•	•		■	x	x		■				
Non Structural Carbohydrates	•	•	•	•	•				x						
CNCPS/CPM Lignin Factor						•									
Summative Index % (Mass Balance)						•									

*NIR 1, 2 or 3 package with the plus option will include all fields needed for the CNCPS model.



CORN SILAGE

• = results by NIR
 x = results by chemistry

ANALYSIS RESULTS	NIR					NIR Plus Option	Standard	Standard + Energies	CPM Plus	RFV	Basic NDF	TAG			
	1	2	3	4	5							1	2	3	4
Moisture / Dry Matter	x	x	x	x	x		x	x	x	x	x	x	x	x	x
PROTEINS															
Crude Protein	•	•	•	x	x		x	x	x	x	x	x	x	x	x
Adjusted Protein	•	•	•	•	•		x	x	x	x	x				
Soluble Protein	•	•	•	•	•		x	x	x						
Ammonia (CPE)	•	•	•	•	•										
ADF Protein (ADICP) / NDF Protein (NDICP)	•	•	•	•	•			x	x						
Rumen Degradable Protein	•	•	•	•	•		x	x	x						
FIBER															
ADF / aNDF	•	•	•	x	x		x	x	x	x	x				
aNDFom	•	•	•	•	•										
Crude Fiber													x	x	x
Lignin	•	•	•	•	•			x	x						
NDF Digestibility (12, 30, 120, 240 hr)						•									
uNDF (30, 120, 240 hr)						•									
CARBOHYDRATES															
Silage Acids (fermented feeds only)						•									
Ethanol Soluble CHO (Sugar)	•	•	•	•	•				x						
WaterSoluble CHO (Sugar)	•	•	•	•	•										
Starch	•	•	•	•	•				x						
Soluble Fiber						•									
Starch Dig. (7 hr, 4 mm)						•									
Fatty Acids , Total and Profile						•									
Crude Fat	•	•	•	•	•			x	x				x	x	x
MINERALS															
Ash	•	•	•	•	•		x	x	x		x		x	x	x
Macro Minerals (Ca, P, Mg, K)	•	x	x	x	•		x	x	x		x			x	
Micro Minerals (Fe, Mn, Zn, Cu)		x	x	x			x	x	x		x			x	
Tag Minerals (Ca, P)													x	x	
Sulfur, Chloride, DCAD calculation			x						x						
QUALITATIVE (fermented feeds only)															
Volatile Fatty Acids						•									
Soil Contamination Probability						•									
Nitrate Probability						•									
NIR Statistical Confidence						•									
ENERGY & INDEX CALCULATIONS															
pH (fermented feeds only)	•	•	•	•	•		x	x	x		x				
TDN	•	•	•	•	•		■	x	x	■	■				
Net Energy Lactation, Maintenance, Gain	•	•	•	•	•		■	x	x	■	■				
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin *2.4)						•									
NDF Dig. Rate (Kd, %HR, uNDF)	•	•	•	•	•		■	■	■	■	■	■	■	■	■
Starch Dig. Rate (Kd, %HR Mertens)						•									
Relative Feed Value															
Relative Feed Quality															
Milk per Ton						•	x								
Dig. Organic Matter Index															
Non Fiber Carbohydrates	•	•	•	•	•		■	x	x		■				
Non Structural Carbohydrates	•	•	•	•	•		•	•	x		•				
CNCPS/CPM Lignin Factor						•									
Summative Index % (Mass Balance)						•									
RFC Fill Index						•									

*NIR 1, 2 or 3 package with the plus option will include all fields needed for the CNCPS model.



SORGHUM HAY AND HAYLAGE

• = results by NIR
x = results by chemistry

ANALYSIS RESULTS	NIR					NIR Plus	Standard	Standard +	CPM Plus	RFV	Basic	TAG			
	1	2	3	4	5	Option		Energies		NDF	1	2	3	4	
Moisture / Dry Matter	x	x	x	x	x		x	x	x	x	x	x	x	x	x
PROTEINS															
Crude Protein	•	•	•	x	x		x	x	x	x	x	x	x	x	x
Adjusted Protein	•	•	•	•	•		x	x	x	x	x				
Soluble Protein	•	•	•	•	•		x	x	x						
Ammonia (CPE)	•	•	•	•	•										
ADF Protein (ADICP) / NDF Protein (NDICP)	•	•	•	•	•			x	x						
Rumen Degradable Protein	•	•	•	•	•		x	x	x						
FIBER															
ADF / aNDF	•	•	•	x	x		x	x	x	x	x				
aNDFom	•	•	•	•	•										
Crude Fiber													x	x	x
Lignin	•	•	•	•	•			x	x						
NDF Digestibility (30, 120, 240 hr)							•								
uNDF (30, 120, 240 hr)							•								
CARBOHYDRATES															
Silage Acids (fermented feeds only)							•								
Ethanol Soluble CHO (Sugar)	•	•	•	•	•					x					
WaterSoluble CHO (Sugar), dry samples only	•	•	•	•	•										
Starch	•	•	•	•	•					x					
Soluble Fiber							•								
Starch Dig. (7 hr, 4 mm)															
Fatty Acids , Total and Profile							•								
Crude Fat	•	•	•	•	•			x	x				x	x	x
MINERALS															
Ash	•	•	•	•	•		x	x	x		x		x	x	x
Macro Minerals (Ca, P, Mg, K)	•	x	x	x	•		x	x	x		x			x	
Micro Minerals (Fe, Mn, Zn, Cu)		x	x	x			x	x	x		x			x	
Tag Minerals (Ca, P)													x		x
Sulfur, Chloride, DCAD calculation			x							x					
QUALITATIVE (fermented feeds only)															
Volatile Fatty Acids							•								
Soil Contamination Probability							•								
Nitrate Probability							•								
NIR Statistical Confidence							•								
ENERGY & INDEX CALCULATIONS															
pH (fermented feeds only)	•	•	•	•	•		x	x	x		x				
TDN	•	•	•	•	•		■	x	x	■	■				
Net Energy Lactation, Maintenance, Gain	•	•	•	•	•		■	x	x	■	■				
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin *2.4)							•								
NDF Dig. Rate (Kd, %HR, uNDF)	•	•	•	•	•		■	■	■	■	■	■	■	■	■
Starch Dig. Rate (Kd, %HR Mertens)															
Relative Feed Value															
Relative Feed Quality															
Milk per Ton							x								
Dig. Organic Matter Index							•								
Non Fiber Carbohydrates	•	•	•	•	•		■	x	x	■	■				
Non Structural Carbohydrates	•	•	•	•	•				x						
CNCPS/CPM Lignin Factor							•								
Summative Index % (Mass Balance)							•								
RFC Fill Index															

*NIR 1, 2 or 3 package with the plus option will include all fields needed for the CNCPS model.



CORN GRAIN

• = results by NIR
 x = results by chemistry
 ■ = results by chemistry and NIR

ANALYSIS RESULTS	NIR					NIR Plus Option	Standard	Standard + Energies	CPM Plus	RFV	Basic NDF	TAG			
	1	2	3	4	5							1	2	3	4
Moisture / Dry Matter	x	x	x	x	x		x	x	x	x	x	x	x	x	x
PROTEINS															
Crude Protein	•	•	•	x	x		x	x	x	x	x	x	x	x	x
Adjusted Protein	•	•	•	•	•		x	x	x	x	x				
Soluble Protein	•	•	•	•	•		x	x	x						
Ammonia (CPE)	•	•	•	•	•										
ADF Protein (ADICP) / NDF Protein (NDICP)	•	•	•	•	•			x	x						
Rumen Degradable Protein															
FIBER															
ADF / aNDF	•	•	•	x	x		x	x	x	x	x				
aNDFom															
Crude Fiber	•	•	•	•	•								x	x	x
Lignin	•	•	•	•	•			x	x						
NDF Digestibility (12, 30, 120, 240 hr)															
uNDF (30, 120, 240 hr)															
CARBOHYDRATES															
Silage Acids (fermented feeds only)						•									
Ethanol Soluble CHO (Sugar)	•	•	•	•	•				x						
WaterSoluble CHO (Sugar)															
Starch	•	•	•	•	•				x						
Soluble Fiber															
Starch Dig. (7 hr, 4 mm)						•									
Fatty Acids , Total and Profile						•									
Crude Fat	•	•	•	•	•			x	x				x	x	x
MINERALS															
Ash	•	•	•	•	•		x	x	x		x		x	x	x
Macro Minerals (Ca, P, Mg, K)	•	x	x	x	•		x	x	x		x			x	
Micro Minerals (Fe, Mn, Zn, Cu)		x	x	x			x	x	x		x			x	
Tag Minerals (Ca, P)													x	x	
Sulfur, Chloride, DCAD calculation			x						x						
QUALITATIVE (fermented feeds only)															
Volatile Fatty Acids						•									
Soil Contamination Probability															
Nitrate Probability															
NIR Statistical Confidence						•									
ENERGY & INDEX CALCULATIONS															
pH (fermented feeds only)	•	•	•	•	•		x	x	x		x				
TDN	•	•	•	•	•		■	x	x	■	■				
Net Energy Lactation, Maintenance, Gain	•	•	•	•	•		■	x	x	■	■				
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin *2.4)						•									
NDF Dig. Rate (Kd, %HR, uNDF)															
Starch Dig. Rate (Kd, %HR Mertens)						•									
Relative Feed Value															
Relative Feed Quality															
Milk per Ton															
Dig. Organic Matter Index															
Non Fiber Carbohydrates	•	•	•	•	•		■	x	x		■				
Non Structural Carbohydrates	•	•	•	•	•				x						
CNCPS/CPM Lignin Factor															
Summative Index % (Mass Balance)						•									
RFC Fill Index															

*NIR 1, 2 or 3 package with the plus option will include all fields needed for the CNCPS model.



TOTAL MIXED RATION PACKAGE OPTIONS

• = results by NIR
 x = results by chemistry
 ■ = results by chemistry and NIR

ANALYSIS RESULTS	TMR Control NIR	TMR Control Chemistry	TMR Diagnostic	TMR Mixer Evaluation (set of 5 samples)
Moisture / Dry Matter	x	x	x	x
PROTEINS				
Crude Protein	•	x	x	•
Adjusted Protein	•	x	x	•
Soluble Protein	•	x	x	•
Ammonia (CPE)	•		x	•
ADF Protein (ADICP) / NDF Protein (NDICP)	•		x	•
Rumen Degradable Protein				
FIBER				
ADF / aNDF	•	x	x	•
aNDFom				
Crude Fiber				
Lignin	•		x	•
NDF Digestibility (24, 240 hr)			x (24 hour)	•
uNDF (240 hr)				•
CARBOHYDRATES				
Silage Acids (fermented feeds only)				
Ethanol Soluble CHO (Sugar)	•		x	•
WaterSoluble CHO (Sugar)				
Starch	•	x	x	•
Soluble Fiber				
Starch Dig. (7 hr, 4 mm)			x	•
Fatty Acids , Total and Profile				•
Crude Fat	•		x	•
MINERALS				
Ash	•	x	x	•
Macro Minerals (Ca, P, Mg, K)	x	x	x	x
Micro Minerals (Fe, Mn, Zn, Cu)	x	x	x	x
Tag Minerals (Ca, P)				
Sulfur, Chloride, DCAD calculation	x	x	x	x
QUALITATIVE (fermented feeds only)				
Volatile Fatty Acids			x	
Soil Contamination Probability				
Nitrate Probability				
NIR Statistical Confidence				
ENERGY & INDEX CALCULATIONS				
pH (fermented feeds only)				
TDN	•	■	x	•
Net Energy Lactation, Maintenance, Gain	•	■	x	•
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin *2.4)				
NDF Dig. Rate (Kd, %HR, uNDF)				
Starch Dig. Rate (Kd, %HR Mertens)				•
Relative Feed Value				
Relative Feed Quality				
Milk per Ton				
Dig. Organic Matter Index				
Non Fiber Carbohydrates	•	■	x	•
Non Structural Carbohydrates	•		x	•
CNCPS/CPM Lignin Factor				•
Summative Index % (Mass Balance)				
Physically Effective NDF (peNDF)	x	x	x	
Starch Processing Score (SPS)	x	x	x	
Penn State Particle Size Evaluation	x	x	x	



EQUINE PACKAGES HAY

● = results by NIR
 ✗ = results by chemistry
 ■ = results by chemistry and NIR

ANALYSIS RESULTS	Equine Basic	Equine Lancer	Equine Chemistry Basic	Equine Chemistry Complete
Moisture / Dry Matter	✗	✗	✗	✗
PROTEINS				
Crude Protein	●	●	✗	✗
Adjusted Protein	●	●	✗	✗
Soluble Protein	●	●	✗	✗
Ammonia (CPE)	●	●		
ADF Protein (ADICP) / NDF Protein (NDICP)	●	●		✗
Rumen Degradable Protein	●	●	✗	✗
FIBER				
ADF / aNDF	●	●	✗	✗
aNDFom	●	●		
Crude Fiber				
Lignin	●	●		✗
NDF Digestibility (30, 120, 240 hr)				
uNDF (30, 120, 240 hr)				
CARBOHYDRATES				
Silage Acids (fermented feeds only)				
Ethanol Soluble CHO (Sugar)	●	●		✗
WaterSoluble CHO (Sugar)	●	●	✗	✗
Starch	●	●	✗	✗
Soluble Fiber				
Starch Dig. (7 hr, 4 mm)				
Fatty Acids , Total and Profile				
Crude Fat	●	●		✗
MINERALS				
Ash	●	●	✗	✗
Macro Minerals (Ca, P, Mg, K)	●	✗	✗	✗
Micro Minerals (Fe, Mn, Zn, Cu)		✗	✗	✗
Tag Minerals (Ca, P)				
Sulfur, Chloride, DCAD calculation				✗
QUALITATIVE (fermented feeds only)				
Volatile Fatty Acids				
Soil Contamination Probability				
Nitrate Probability				
NIR Statistical Confidence				
ENERGY & INDEX CALCULATIONS				
pH (fermented feeds only)				
Equine TDN	●	●		✗
Equine Digestible Energy	●	●		✗
Net Energy Lactation, Maintenance, Gain	●	●	■	✗
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin *2.4)				
NDF Dig. Rate (Kd, %HR, uNDF)	●	●	■	■
Starch Dig. Rate (Kd, %HR Mertens)				
Relative Feed Value	●	●	✗	✗
Relative Feed Quality				
Milk per Ton				
Dig. Organic Matter Index				
Non Fiber Carbohydrates	●	●	■	✗
Non Structural Carbohydrates	●	●	■	✗
CNCPS/CPM Lignin Factor				
Summative Index % (Mass Balance)				