



Forage and Feed Test Results

Report number: N 2200/17

ID number: ATH1702195

Data of the customer

Name of company: Karcoll Dairy Consulting Sro
Postal address of the test results: Parkové nábrežie 5, Nitra 94901, Slovakia
E-mail address of the test results: juraj@karcoldairy.sk

Name of customer: Ing. Juraj Karcoll
Phone number of the customer: +421905665702
Agreement reference:

Data of the sample

Date sampling: 13.06.2017
Type of forage: Lucerne silage
Ordered package: Profi package
Name of the person who sampled:

Date of sample receipt: 16.06.2017 12.30
Origin of the sample: Nitra Farm 3
Item number: -
Name and ID number of the MPC: -

RESULTS	Result	Comment	
		Average value	Deviation from optimum
Nutrient content and calculated Hungarian data (Hungarian Feed Codex)			
Dry matter	g/kg	333	352 Normal
Crude protein	g/kg DM	235!	195 Excellent
Crude fat	g/kg DM	29	29
Crude fibre	g/kg DM	214	279 Excellent
Crude ash	g/kg DM	113	128
Sugar	g/kg DM	12	23
Starch	g/kg DM		
NDF	g/kg DM	341	422 Excellent
ADF	g/kg DM	267	322 Excellent
ADL	g/kg DM	45	61 Excellent
Hemicellulose	g/kg DM	74	100
Cellulose	g/kg DM	222	260
NFC	g/kg DM	282	226
NSC	g/kg DM		
NFC/NDF		0.83	
MFE (H.F. Codex)	g/kg DM	81	
MFN (H.F. Codex)	g/kg DM	138	
UDP (H.F. Codex)	g/kg DM	54	
FOM (H.F. Codex)	g/kg DM	459	
DE (H.F. Codex)	MJ/kg DM	11.6	
NE _m (H.F. Codex)	MJ/kg DM	5.86	
NE _g (H.F. Codex)	MJ/kg DM	3.42	
NEI (H.F. Codex)	MJ/kg DM	5.95	Good
Hungarian calculated data based on CSPS			
CSPS (USA)	%		
Starch dig. _{HU}	% DM		
Digestible starch _{HU}	g/kg DM		
Starch loss			
NEI _{HU} CSPS	MJ/kg DM		
Measured and calculated values in the different international systems			
NEI (Germany)	MJ/kg DM	5.2	
ME (BLGG)	MJ/kg DM	9.0	
NEI-VC (BLGG)	MJ/kg DM	6.3	
DVE*	g/kg DM	66	47
Soluble crude prot.	%	72	70
Soluble crude prot.	g/kg DM	169	137
Soluble prot./RDP	%		
nXP	g/kg DM	143	131
RNB	g/kg DM	15	10
UDP	%	20.0	BLGG, GER
UDP	g/kg DM	47	BLGG, GER
RDP	g/kg DM	151	BLGG, FR
PDIA	g/kg DM	43	
PDIN	g/kg DM	126	
PDIE	g/kg DM	81	
OEB ⁺			
By-pass starch	%		
By-pass starch	g/kg DM		
Dig. OM%	%	74.5	67 Excellent
VOS	g/kg DM	661	581 Very good
FOS	g/kg DM	527	460 Very good
NDFd	%	50.2	41 Excellent
Degradable NDF	g/kg DM	171	167 Normal
uNDF	g/kg DM	170	239
peNDF (USA)	g/kg DM		
RFV (USA)		186	Premium quality
UFL	g/kg DM	0.91	
UFV	g/kg DM	0.84	
VEM	g/kg DM	853	
VEVI	g/kg DM	868	

RESULTS	Result	Comment	
		Average value	Deviation from optimum
Minerals			
Calcium	g/kg DM		
Phosphorus	g/kg DM		
Ca/P			
Potassium	g/kg DM		
Sodium	g/kg DM		
Magnesium	g/kg DM		
Sulphur	g/kg DM		
Manganese	mg/kg DM		
Zinc	mg/kg DM		
Copper	mg/kg DM		
Iron	mg/kg DM		
Selenium	mg/kg DM		
DCAD	meq/kg DM		
DCAD	meq/100gDM		
Other parameters (fermentation, amino acids, etc.)			
pH		4.1	4.8 Excellent
NH ₃ -fraction	% total N	10	13
Lactic acid	g/kg DM	77	60 Excellent
Acetic acid	g/kg DM	7	21 Excellent
LA/AA		11.0!	2.9 Excellent!
Lysine	g/kg DM	3.2	2
Methionine	g/kg DM	1.1	1.0
Chlorine	g/kg DM	3.5	3.8
Nitrate	g/kg DM	3.4	1.5 Not loaded
Structure		2.2	3.0
kd OM	%/hour		
kd Protein	%/hour		
kd Starch	%/hour		
kdNDF	%/hour		
Sensory evaluation (MSZ 6830-1:1983)			
Colour		Greenish-brown.	
Odour		Typical.	
Touching		Wet.	
Structure		Homogenous, chop-size range: 1-4 cm.	
Quantity of grain		-	
Contamination		Weed seeds, weed and other contamination were not found in the sample.	
Quality based on nutrient content (Hungarian Feed Codex)			
Wilted lucerne silage in good quality.			
Quality of fermentation, animal health risk			
Fermentation profile is on excellent level, there is no animal health risk!			
The average based on results of samples received by the Livestock Performance Testing Ltd since 2013 and may be out of the optimal range.			



Methods (list of wet-chemical analytical and <i>in vitro</i> methods provides data for NIR reference database)			
Sample preparation	MSZ ISO 6498:2001	<i>In vitro</i> methods	
Sensory evaluation	MSZ 6830-1:1983.	OMd	Tilley J.M.A., R.A. Terry, 1963
Moisture content	MSZ ISO 6496:1993		Incubating forage in rumen fluid for 48 hours
Crude ash	MSZ ISO 5984:1992, NEN 3329,	By-pass starch	Incubating forage in rumen fluid for 48 hours
Crude protein	NEN-ISO 5983-2	NDFd	Incubating forage in rumen fluid for 48 hours
Crude fibre	NEN-EN-ISO 6865	Physical structure	
Crude fat	NEN -ISO 6492	CSPS	Ferreira and Mertens, 1997
Sugar	NEN 3571	peNDF	Mertens, 1988
Starch	NEN-EN-ISO 15914	Minerals and traces	
NDF, ADF, ADL	NEN-EN-ISO 13906, Van Soest, 1963	DCAD	In collaboration with other Feed Labs Meq [(Na+K)-(Cl+S)]
Soluble crude protein	NEN-ISO 5983-2		
NIR spectra	NEN-EN-ISO 12099		

Description of the test: spectrum of the dried and ground samples (MSZ ISO 6498:2001) are compiled with BLGG AgroXpertus calibration reference database.
Analytical results are valid to the samples received by the Lab. The customer is responsible for keeping the rules of sampling.
The reported results only refer to the material supplied to AT Kft. NIR Feed Lab.

Használt rövidítések			
NFC	Non fiber carbohydrates	PDIN	Nitrogen-dependent digestible protein
NSC	Non structural carbohydrates	PDIE	Energy-dependent digestible protein
MFE	Energy-dependent metabolizable protein	By-pass starch	Rumen undegradable starch
MFN	Nitrogen-dependent metabolizable protein	Dig. OM%	Digestibility of organic matter
UDP	Undegradable protein	VOS	Digestible organic matter
FOS	Fermentable organic matter (rumen)	NDFd	NDF rumen degradability
DE	Digestible energy	uNDF	Non degradable NDF
NE _m	Net energy for maintenance	RFV	Relative feed value
NE _g	Net energy for gain	UFL	Feed unit for maintenance and milk production
NE _l	Net energy for lactation	VEM	Feed unit milk
ME	Metabolizable energy	VEVI	Feed unit beef cattle intensive
CSPS	Corn silage processing score	DCAD-érték	Cation-anion difference
Digestible	Digestible starch (total digestive system)	kd OM	Degradation rate of organic matters in the rumen
NEI-VC	NEI based on measured digestibility	kd Protein	Degradation rate of crude protein in the rumen
nXP	Available crude protein in the duodenum	kd Starch	Degradation rate of starch in the rumen
RNB	Ruminal nitrogen balance	kd NDF	Degradation rate of NDF in the rumen
RDP	Degradable crude protein		
PDIA	Digestible true protein		

Comment:

- **Dry matter content** of the silage is good for an intensive lactic acid fermentation.
- **Fermentation quality:** pH of the sample is excellent, **LA/AA ration** is on excellent level as well, because of the excellent *lactic acid content*!
- **Crude protein** content of the sample is on excellent level, **crude fibre- NDF- , ADF- and ADL-content** confirm good quality according to the Hungarian database.
- The sample can be categorized as a **good quality wilted lucerne silage** according to the Hungarian Feed Codex **based on fibre composition of the sample**.
- **Net energy content** of the sample (calculated according to the Hungarian Feed Codex) confirms good quality according to the Hungarian database.

Gödöllő, 20/06/2017

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Director of Feed Laboratory