

Certificate of Analysis



Certificate Number: 23-001661
Report Date: February 14, 2023

Client:
HOMELAND ENERGY SOLUTIONS
2779 IA HIGHWAY 24
LAWLER IA 52154
UNITED STATES

Sample Information:
SGS Sample Identification: MW23-01104.001
Client Sample Identification: 020623 DDGS
Received: February 08, 2023
Sample/Product Type: Distillers dried grains with solubles
The sample condition upon arrival was acceptable for testing.

Analysis	Result	Units	L.O.Q.	Method
Calcium	0.02	%	0.0028	ANA008CHEM
Copper	5.67	PPM	2.7889	ANA008CHEM
Iron	61.81	PPM	6.8889	ANA008CHEM
Potassium	1.21	%	0.0694	ANA008CHEM
Magnesium	0.36	%	0.0209	ANA008CHEM
Manganese	13.25	PPM	0.9778	ANA008CHEM
Sodium	0.02	%	0.014	ANA008CHEM
Phosphorus	0.96	%	0.0554	ANA008CHEM
Sulfur	0.41	%	0.021	ANA008CHEM
Zinc	55.14	PPM	5.5556	ANA008CHEM
Hunter L Color	45.85		N/A	Hunter Labs Colorflex EZ

Analysis	As Received	On Dry Matter	Units	Method
Drymatter	86.50	--	%	NFTA 2.2.2.5
Moisture	13.50	--	%	NFTA 2.2.2.5
Crude Fiber	9.10	10.52	%	ANA032CHEM
Crude ash content	4.427	5.118	%	AOAC 942.05 (mod)
NDF	31.69	36.64	%	ANKOM Technology Method 6
Crude Fat	5.66	6.54	%	AOAC 2003.06 (Petroleum Ether)
Crude Protein	31.08	35.93	%	ANA030CHEM
Acid detergent fiber	11.38	13.16	%	Calculation
Digestable Energy	1.55	1.79	Mcal/lb	Calculation
Metabolizable Energy	1.25	--	Mcal/lb	Calculation
Net Energy Gain	0.56	0.64	Mcal/lb	Calculation
Net Energy Lactation	0.76	0.88	Mcal/lb	Calculation
Net Energy Maintenance	0.84	0.97	Mcal/lb	Calculation
Total digestable nutrients	72.25	83.53	%	Calculation
Starch Content	2.488	2.877	g/100g	AOAC996.11

Abbreviations:

L.O.Q.: Limit of Quantification **L.O.D.:** Limit of Detection **N/A:** Not Applicable **N.D.:** Not Detected

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and/or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

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A blue ink signature of Dustin Edmison, written in a cursive style.

Dustin Edmison
Laboratory Manager

Start/End Analysis: 02/08/2023 - 02/14/2023

Method References:

ANA008CHEM: AOAC 2011.14; EN17053:2018; USP <2232>; EPA 200.7; AOAC 985.01
ANA032CHEM: AOAC 962.09,
AOCS Ba 6a-05
ANA030CHEM: AACC 46-30.01, AOAC 992.15, AOAC 990.03

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