

# Certificate of Analysis



Certificate Number: 24-004141  
Report Date: May 15, 2024

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

**Sample Information:**  
**SGS Sample Identification:** MW24-03140.001  
**Client Sample Identification:** 050124 DDGS  
**Received:** May 03, 2024  
**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	5.89	PPM	2.7889	ANA008CHEM
Iron	61.42	PPM	6.8889	ANA008CHEM
Potassium	1.25	%	0.0694	ANA008CHEM
Magnesium	0.35	%	0.0209	ANA008CHEM
Manganese	13.76	PPM	0.9778	ANA008CHEM
Sodium	0.02	%	0.014	ANA008CHEM
Phosphorus	0.93	%	0.0554	ANA008CHEM
Sulfur	0.41	%	0.021	ANA008CHEM
Zinc	55.44	PPM	5.5556	ANA008CHEM
Hunter L Color	50.54		N/A	Hunter Labs Colorflex EZ

Analysis	As Received	On Dry Matter	Units	Method
Drymatter	87.41	--	%	NFTA 2.2.2.5
Moisture	12.59	--	%	NFTA 2.2.2.5
Crude ash content	4.749	5.433	%	AOAC 942.05 (mod)
NDF	30.35	34.72	%	ANKOM Technology Method 6
Crude Fat	5.37	6.14	%	AOAC 2003.06 (Petroleum Ether)
Crude Protein	30.19	34.54	%	ANA030CHEM
Acid detergent fiber	10.55	12.07	%	Calculation
Digestable Energy	1.57	1.80	Mcal/lb	Calculation
Metabolizable Energy	1.27	--	Mcal/lb	Calculation
Net Energy Gain	0.57	0.65	Mcal/lb	Calculation
Net Energy Lactation	0.77	0.89	Mcal/lb	Calculation
Net Energy Maintenance	0.86	0.98	Mcal/lb	Calculation
Total digestable nutrients	73.73	84.35	%	Calculation
Crude fibre	8.44	9.66	%	AOCS Ba6a-05/Ankom
Total Starch Content	1.362	1.558	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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Lynn Vansloten  
Crop Sciences - Laboratory Supervisor  
Start/End Analysis: 05/03/2024 - 05/14/2024

**Method References:**

ANA008CHEM: AOAC 2011.14; EN17053:2018; USP <2232>; EPA 200.7; AOAC 985.01  
ANA030CHEM: AACC 46-30.01, AOAC 992.15, AOAC 990.03

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