



SGS North America
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Certificate of Analysis

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|---|---|--------------------|
| Client: HOMELAND ENERGY SOLUTIONS 2779 IA HIGHWAY 24 | Sample Number: MW12-00956.001 | Page 1 of 2 |
| | Report Date: February 16, 2012 | |
| | Received: February 10, 2012 | |
| | Sample Type: Distillers dried grains with solubles | |
| LAWLER IA 52154 UNITED STATES | Sample Description: | |
| Sample Identification: 20912 | | |

| Analysis | Result | Units | Detection Limit | Uncertainty | Limits | Method |
|---------------------------------|--------|--------|-----------------|-------------|--------|----------------------------------|
| Hunter L Value | 54.48 | | 0.00 | | | ColorFlex User's Guide, Ver. 2.5 |
| Phosphorous content as received | 1.00 | %(m/m) | 0.01 | | | AOAC 968.08 |
| Potassium content as received | 1.19 | %(m/m) | 0.00 | | | AOAC 968.08 |
| Calcium content as received | 0.02 | %(m/m) | 0.01 | | | AOAC 968.08 |
| Magnesium content as received | 0.37 | %(m/m) | 0.00 | | | AOAC 968.08 |
| Zinc content as received | 59.76 | PPM | 1.48 | | | AOAC 968.08 |
| Manganese content as received | 13.56 | PPM | 0.09 | | | AOAC 968.08 |
| Copper content as received | 5.71 | PPM | 0.08 | | | AOAC 968.08 |
| Iron content as received | 79.22 | PPM | 0.24 | | | AOAC 968.08 |
| Sodium content as received | 0.22 | %(m/m) | 0.00 | | | AOAC 968.08 |
| Sulfur content as received | 0.85 | %(m/m) | 0.02 | | | AOAC 968.08 |
| Sugar as Invert | 3.48 | % | 0.00 | | | |

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.

The sample condition upon arrival was acceptable for testing unless otherwise noted.

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| Analysis | As Received | On Dry Matter | Units | Method |
|----------------------------|-------------|---------------|---------|------------------------------|
| Starch Content | 5.225 | 5.680 | g/100g | AOAC996.11 |
| Moisture content | 8.01 | -- | %(m/m) | NFTA 2.2.2.5 |
| Drymatter content | 91.99 | -- | %(m/m) | NFTA 2.2.2.5 |
| Crude ash content | 5.086 | 5.529 | %(m/m) | AOAC 942.05 |
| Crude fiber content | 6.27 | 6.81 | %(m/m) | AOAC 962.09 |
| Acid detergent fiber | 13.93 | 15.14 | %(m/m) | Calculation |
| Total digestible nutrients | 75.45 | 82.02 | %(m/m) | Calculation |
| Net Energy Lactation | 0.79 | 0.86 | Mcal/lb | Calculation |
| Net Energy Maintenance | 0.87 | 0.95 | Mcal/lb | Calculation |
| Net Energy Gain | 0.57 | 0.62 | Mcal/lb | Calculation |
| Digestible Energy | 1.631 | 1.773 | Mcal/lb | Calculation |
| Metabolizable Energy | 1.46 | -- | Mcal/lb | Calculation |
| NDF | 24.84 | -- | % | ANKOM Technology Method 6 |
| Crude fat content | 9.55 | 10.38 | %(m/m) | AOAC 2003.06 |
| Crude protein content | 28.10 | 30.54 | %(m/m) | AOAC 972.43 (Nx6.25) |

Abbreviations:

N.D.: Not Detected

Data Start/End Analysis : 02/10/2012 - 02/15/2012



Angela Carlson
 Analytical Lab Manager

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