REPORT NUMBER
17-094-9023

REPORT DATE
Apr 04, 2017

SEND TO
16742

RECEIVED DATE
Mar 22, 2017

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ISSUE DATE
Apr 04, 2017

LINCOLNLAND AGRI-ENERGY LLC
MICHELLE MCGUIRE
10406 N 1725TH ST
PALESTINE IL 62451-

REPORT OF ANALYSIS

For: (16742) LINCOLNLAND AGRI-ENERGY LLC
Wet Cake
013612

Analysis	Level Found As Received	Level Found Dry Weight	Units	Reporting Limit	Method	Analyst-Date	Verified-Date
Sample ID: **W1-20170314** Lab Number: **12803028** Date Sampled: **2017-03-14**							
Moisture	55.08	///////	%	0.01	AOAC 930.15	vrm7-2017/03/23	cde2-2017/03/24
Dry matter	44.92	///////	%	0.010	Calculation	Auto-2017/04/04	Auto-2017/04/04
Protein (crude)	15.3	34.0	%	0.20	AOAC 990.03	tat9-2017/03/23	cde2-2017/03/24
Fat (crude)	3.35	7.45	%	0.10	AOAC 945.16	kfl0-2017/03/23	cde2-2017/03/24
Fiber (acid detergent)	5.1	11.4	%	0.5	ANKOM Tech. Method	vrm7-2017/03/23	cde2-2017/03/24
Ash	3.18	7.07	%	0.10	AOAC 942.05	vrm7-2017/03/24	cde2-2017/03/24
Starch (total)	1.5	3.4	%	0.1	AACC 76-11 (mod)	jsp2-2017/03/23	acm2-2017/03/23
Total digestible nutrients	36.5	81.2	%	0.1	Calculation	Auto-2017/03/24	Auto-2017/04/04
Net energy (lactation)	0.38	0.85	Mcal/lbs	0.01	Calculation	Auto-2017/03/24	Auto-2017/04/04
Net energy (maint.)	0.40	0.88	Mcal/lbs	0.01	Calculation	Auto-2017/03/24	Auto-2017/04/04
Net energy (gain)	0.26	0.59	Mcal/lbs	0.01	Calculation	Auto-2017/03/24	Auto-2017/04/04
Digestible energy	0.73	1.62	Mcal/lbs	0.01	Calculation	Auto-2017/03/24	Auto-2017/04/04
Metabolizable energy	0.65	1.45	Mcal/lbs	0.01	Calculation	Auto-2017/03/24	Auto-2017/04/04
Sulfur (total)	0.49	1.09	%	0.01	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Phosphorus (total)	0.66	1.47	%	0.01	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Potassium (total)	0.84	1.86	%	0.01	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Magnesium (total)	0.20	0.45	%	0.01	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Calcium (total)	0.01	0.03	%	0.01	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Sodium (total)	0.16	0.35	%	0.01	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24

The result(s) issued on this report only reflect the analysis of the sample(s) submitted.

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Sample ID: W1-20170314	Lab Number: **12803028** (con't)						
Iron (total)	52.6	117	ppm	5.0	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Manganese (total)	13.9	31.0	ppm	1.0	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Copper (total)	4.3	9.6	ppm	1.0	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Zinc (total)	43.9	97.8	ppm	1.0	AOAC 985.01 (mod)	cvs7-2017/03/23	cde2-2017/03/24
Aflatoxin B1	n.d.		ppb	1	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
Aflatoxin B2	n.d.		ppb	1	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
Aflatoxin G1	n.d.		ppb	1	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
Aflatoxin G2	n.d.		ppb	1	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
Aflatoxin summation	n.d.		ppb	1.00	Calculation	Auto-2017/03/31	Auto-2017/04/04
DON (Vomitoxin)	1.3		ppm	0.1	AOAC 2008.02 (mod)	kia9-2017/04/03	tjp8-2017/04/04
Fumonisin B1	0.99		ppm	0.10	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
Fumonisin B2	0.15		ppm	0.10	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
Fumonisin B3	n.d.		ppm	0.10	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
Fumonisin summation	1.14		ppm	0.10	Calculation	Auto-2017/03/31	Auto-2017/04/04
Ochratoxin	n.d.		ppb	1	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
T-2 toxin	n.d.		ppm	0.1	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31
Zearalenone	n.d.		ppb	50.0	AOAC 2008.02 (mod)	kia9-2017/03/31	tjp8-2017/03/31

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Wet Cake
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n.d. = not detected , ppm = parts per million, ppm = mg/kg , ppb = parts per billion Mineral analysis performed by ICAP using a wet digest procedure.
Total starch value includes all hydrolyzable carbohydrates.

For questions please contact:

Lisa Avila
Analyst
lisa.avila@midwestlabs.com (402)829-9847

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Detailed Method Description(s)

Moisture

Analysis follows MWL FD 016 which is based on AOAC 930.15. A sample is blended, mixed, or ground to obtain a homogenous sub-sample. The sample aliquot is placed in a pre-weighed tin, weighed to get a sample weight and then placed in a 135°C convection oven for two (2) hours. The sample is then removed, cooled in a desiccator and reweighed. The loss in weight is reported as % moisture

Calculation

Analytical results are entered into applicable formulas to provide a calculated result which is reported.

Protein (Crude)

Analysis follows MWL FD 070 which is based on AOAC 990.03. The sample is placed in a combustion instrument and the amount of nitrogen is obtained. The nitrogen value is multiplied by a factor of 6.25 and that value reported as crude protein.

Crude Fat

Analysis follows MWL FD 026 which is based on AOAC 945.16. The sample is extracted with drip immersion of the sample in petroleum (pet) ether. The pet ether is poured into a pre-weighed container and then evaporated. The container is re-weighed and the increase in weight is reported as crude fat

Acid Detergent Fiber

Analysis follows MWL FD 021 which is based on Ankom Technology method. The sample is sealed in a small bag and the bag immersed in a solution that dissolves certain materials. The bag is washed and dried and re-weighed. The material remaining in the bag is reported as acid detergent fiber

Ash

Analysis follows MWL FD 019 which is based on AOAC 942.05. The sample is weighed and placed in a muffle furnace at 600°C. After a period of time, the sample is removed and the remaining material weighed and reported as ash. Moisture and organic material is driven off.

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AACC 76-11 (mod)

Analysis follows WC 047 which is based on modified AACC-76-11 and YSI Application Note 319. A sample is combined with water and placed in an autoclave. After the autoclave step, buffer and amyloglucosidase enzyme are added and the sample placed in a water bath where the starch is hydrolyzed to glucose. The glucose is then determined using a YSI glucometer.

ICP analysis of Feeds

Analysis follows MWL ME 029 which is based on AOAC 985.01. Samples have been prepared using MWL ME 069 which is a wet ash procedure that requires mineral acids and heat. Sample analysis involves moving the sample extract into the ICP where it is nebulized and introduced into the high temperature plasma which energizes the electrons of the dissolved minerals/metals. As the energized electrons of the minerals/metals return to ground state, energy is released as light. The emitted wavelength(s) and light intensities are used to identify and quantitate the minerals/metals in the sample

Mycotoxin extraction and analysis

Sample analysis follows MWL LCMS 020 which is based on AOAC 2008.02 (modified). Samples are ground to a homogenous consistency and placed in an extraction solution. The extract is allowed to equilibrate and then an aliquot passed through an immunoaffinity column which contains antibodies that are specific for the mycotoxins. The mycotoxins are released from the affinity column and then analyzed by either LC/MS and/or LC/MS/MS which allows identification of the mycotoxins using mass spectrometery and retention time.