AAFCO Proficiency Testing Program

AAFCO PTP Animal Feed Scheme

Animal Feed Scheme
Cattle Mineral
Sample # 201698

Method Summary Report

(Precision Report Follows)

 # Methods Reported: 280
 # Labs Reporting: 161
Issue Date : 09/30/2016

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value - Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	1	1	0.10000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	1.8432	0.16143	1.9072	0.16578	0.11722	8.69%	0.30323	3.63%
001.05	Loss on Drying, LECO (%)	1	1	1.7500							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	21	19	2.1361	0.36779	2.0545	0.18677	0.05356	9.09%	0.06752	3.59%
001.99	Loss on Drying, Miscellaneous (%)	9	8	2.0200	0.25278	2.0200	0.28666	0.12669	14.19%	0.00500	3.60%
002.00	Protein, Crude (%)	2	2	1.1280	1.3180						
002.01	Protein, Auto Kjel-Foss (%)	4	4	3.5738	3.6621	1.6150	0.02121	0.01500	1.31%	0.02500	3.72%
002.04	Protein, Copper Catalyst (%)	3	3	1.6233	0.08312	1.6233	0.08312	0.04799	5.12%	0.03667	3.72%
002.05	Protein, Copper, Boric Acid (%)	8	7	1.5982	0.23127	1.6276	0.18948	0.08952	11.64%	0.10499	3.72%
002.06	Protein, Combustion Nitrogen Analyzer (%)	31	29	1.8016	0.50229	1.7564	0.33753	0.07835	19.22%	0.08461	3.67%
002.08	Protein, Cu/Ti (%)	1	1	1.6080							
002.99	Protein, Miscellaneous (%)	2	2	1.6625	0.27224						
003.00	Fat, Eth Ext., Direct (%)	2	2	1.7718	0.95010						
003.06	Fat, Pet Ether (%)	3	3	1.0106	0.25297	1.0106	0.25297	0.14605	25.03%	0.08760	3.99%
003.09	Fat, Soxtec, Eth Ext (%)	3	3	1.4567	0.52541	1.7600	0.00707	0.00500	0.40%	0.00667	3.67%
003.10	Fat, Soxtec, Pet Ether (%)	10	9	0.76229	0.23669	0.76295	0.25378	0.10574	33.26%	0.06437	4.17%
003.12	Fat, Hexane Ext (%)	1	1	0.80500							
003.13	Fat, Soxtec, Hexane Ext. (%)	2	2	0.76925	0.04844						
003.14	Fat, Ankom (%)	14	13	0.90234	0.22958	0.86846	0.16070	0.05571	18.50%	0.03972	4.09%
003.99	Fat, Miscellaneous (%)	1	1	9.4450							
004.00	Fiber, Crude, Asbestos Free (%)	5	5	3.1221	0.30958	3.1221	0.30958	0.13845	9.92%	0.06096	3.37%
004.03	Fiber, Fritted Glass (%)	1	1	2.8150							
004.06	Fiber, Fibertec (%)	7	6	2.7758	0.29277	2.7777	0.32767	0.16721	11.80%	0.08833	3.43%
004.07	Fiber, ANKOM (%)	9	9	3.4847	0.61732	3.4793	0.68826	0.28678	19.78%	0.20514	3.32%
005.00	Ash, 2h @ 600°C (%)	42	40	74.581	10.918	76.439	0.89912	0.17770	1.18%	0.28131	1.14%
005.05	Ash, 3h @ 550°C (%)	12	12	77.137	0.76354	77.098	0.76065	0.27448	0.99%	0.16124	1.14%
005.99	Ash, Miscellaneous (%)	4	4	76.735	1.3377	76.735	1.3377	0.66886	1.74%	0.13000	1.14%
006.01	Total sugars, Mod. Fehling Soln (%)	1	1	4.3150							
006.99	Total sugars, Miscellaneous (%)	1	1	3.9000							
008.02	Fiber, Acid Detergent (%)	4	3	3.7843	0.48956	3.7843	0.48956	0.28265	12.94%	0.13157	3.27%

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008.05	Fiber, Acid Detergent-Hach (%)	1	1	4.6000							
008.08	Fiber, Acid Detergent, ANKOM (%)	9	8	3.4326	0.49496	3.4750	0.45912	0.20290	13.21%	0.32771	3.32%
009.07	Fiber, Neutral Det-ENZ Pretreat (%)	4	3	8.4813	3.3844	8.4813	3.3844	1.9540	39.90%	0.46757	2.90%
009.09	Fiber, Neutral Detergent, ANKOM (%)	9	8	5.1747	1.8107	4.7981	1.0265	0.45365	21.39%	0.24145	3.16%
010.03	Moisture, Karl-Fischer (%)	1	1	1.5850							
010.99	Moisture, Miscellaneous (%)	8	7	2.3123	0.49887	2.2887	0.51058	0.24123	22.31%	0.19503	3.53%
011.01	Loss on Drying, 135°C 2hr (%)	32	31	3.1720	0.49123	3.2402	0.33601	0.07544	10.37%	0.09312	3.35%
011.02	Loss on Drying, 130°C for 2 hours (%)	1	1	2.8750							
011.03	Loss on drying, 130°C, 1 hour, Flour (%)	1	1	1.6150							
011.99	Loss on Drying, High Temp. Methods Miscellaneo	2	2	3.0575	0.04596						
012.00	Starch, Polarimetric (Ewers) (%)	2	1	1.1650							
012.01	Starch, Megazyme (%)	5	5	0.77570	0.54493	0.77570	0.54493	0.24370	70.25%	0.11780	4.16%
012.03	Starch, Enzymatic (%)	2	1	0.83500							
012.04	Starch, YSI Analyzer (%)	2	2	0.22250	0.17324						
013.00	Fat, Acid hydrolysis (%)	4	4	1.7140	0.91669	1.7140	0.91669	0.45834	53.48%	0.15443	3.69%
013.02	Fat, Mojonnier, Bak Ext (%)	9	8	1.9652	0.85928	2.0419	0.78872	0.34857	38.63%	0.07948	3.59%
013.10	Fat, Soxtec-Acid Hydrolysis (%)	3	3	0.96167	0.43469	0.96167	0.43469	0.25097	45.20%	0.13000	4.02%
013.13	Fat, Ankom- Acid Hydrolysis (%)	1	1	2.8500							
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	3	3	1,521.0	69.166	1,521.0	69.166	39.933	4.55%	10.170	5.31%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	1,786.5							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	5	5	1,438.9	99.437	1,438.9	99.437	44.470	6.91%	28.493	5.35%
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	1	1	7.9500							
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	2	2	8.8802	1.6619						
017.43	Boron, ICP, Microwave (mg / kg (ppm))	5	4	15.240	9.1623	15.240	9.1623	4.5811	60.12%	0.95500	10.62%
017.52	Boron, ICP-MS, Open vessel (mg / kg (ppm))	1	1	7.9550							
019.00	Calcium, Ox-Mn04 Vol. (%)	13	12	18.134	0.55437	18.065	0.44220	0.15957	2.45%	0.27094	2.35%
019.02	Calcium, Hach Method (%)	2	2	11.180	8.6546						
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	18.642							
019.08	Calcium, EDTA (%)	7	7	18.785	2.1060	18.423	1.4649	0.69211	7.95%	0.17057	2.33%
019.09	Calcium, Ion-selective electrode (%)	1	1	17.660							
019.31	Calcium, AAS, Dry ash (%)	26	25	18.197	1.3701	18.097	1.1796	0.29491	6.52%	0.25072	2.35%
019.32	Calcium, AAS, Open vessel (%)	5	5	18.311	2.0376	18.311	2.0376	0.91126	11.13%	0.16430	2.34%
019.33	Calcium, AAS, Microwave (%)	1	1	18.050							
019.41	Calcium, ICP, Dry ash (%)	23	23	17.902	0.98914	17.986	0.89001	0.23198	4.95%	0.57694	2.36%
019.42	Calcium, ICP, Open vessel (%)	24	22	17.981	1.6060	17.922	1.6252	0.43313	9.07%	0.36488	2.36%
019.43	Calcium, ICP, Microwave (%)	20	20	17.688	0.95057	17.764	0.72238	0.20191	4.07%	0.19197	2.37%
019.44	Calcium, ICP, Dry ash (%)	2	2	18.075	0.45962						
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	16.576	1.1195	16.576	1.1195	0.64634	6.75%	0.78783	2.46%

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019.53	Calcium, ICP-MS, Microwave (%)	2	2	17.580	0.66468						
019.99	Calcium, Miscellaneous (%)	7	7	16.086	6.6782	17.854	2.7349	1.2921	15.32%	0.23857	2.37%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	6	6	26.740	8.3346	26.740	9.4514	4.8232	35.35%	2.0767	9.76%
021.34	Cobalt, AAS, Graphite furnace (mg / kg (ppm))	1	1	25.500							
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	4	4	16.418	6.8425	16.418	6.8425	3.4212	41.68%	0.14375	10.50%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	4	4	17.570	10.405	22.065	0.93076	0.65815	4.22%	1.7353	10.04%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	5	5	23.309	3.6233	23.309	3.6233	1.6204	15.54%	0.79732	9.96%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	1	1	23.607							
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	2	2	23.318	4.2685						
021.99	Cobalt, Miscellaneous (mg / kg (ppm))	1	1	34.450							
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	21	21	1,281.1	85.860	1,290.3	68.726	18.746	5.33%	26.446	5.44%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	4	4	1,306.7	90.217	1,306.7	90.217	45.109	6.90%	33.135	5.43%
022.33	Copper, AAS, Microwave (mg / kg (ppm))	2	2	1,354.7	62.620						
022.35	Copper, AAS, Dry ash (mg / kg (ppm))	1	1	1,250.5							
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	22	1,235.6	90.839	1,235.6	102.89	27.421	8.33%	22.826	5.48%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	23	22	1,284.9	163.51	1,284.9	122.03	32.522	9.50%	26.627	5.45%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	20	20	1,261.6	128.42	1,270.8	102.43	28.630	8.06%	21.345	5.46%
022.44	Copper, ICP, Dry ash (mg / kg (ppm))	1	1	1,264.1							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	1,227.0	35.482						
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	2	2	1,225.1	42.239						
022.99	Copper, Miscellaneous (mg / kg (ppm))	5	5	1,333.8	65.680	1,333.8	65.680	29.373	4.92%	33.200	5.42%
023.01	Fluorine, Ion Sel Elect (mg / kg (ppm))	1	1	244.40							
024.99	Iodine, Miscellaneous (mg / kg (ppm))	1	1	33.800							
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	16	16	5,531.3	1,587.1	5,821.3	735.89	229.96	12.64%	74.374	4.34%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	4	4	5,169.3	1,533.9	5,169.3	1,533.9	766.96	29.67%	142.80	4.42%
025.33	Iron, AAS, Microwave (mg / kg (ppm))	2	2	5,644.9	635.80						
025.34	Iron, AAS, Dry ash (mg / kg (ppm))	1	1	7,855.6							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	22	22	5,546.0	510.98	5,598.4	455.75	121.46	8.14%	156.87	4.36%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	18	17	5,510.8	419.80	5,532.7	422.28	128.02	7.63%	91.904	4.37%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	17	17	5,169.2	1,314.8	5,432.3	533.97	161.88	9.83%	148.24	4.38%
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	2	2	5,217.0	620.70						
025.99	Iron, Miscellaneous (mg / kg (ppm))	3	3	5,878.3	609.55	5,878.3	609.55	351.92	10.37%	51.333	4.33%
027.31	Magnesium, AAS, Dry ash (%)	22	21	1.2289	0.11705	1.2338	0.09104	0.02483	7.38%	0.03352	3.88%
027.32	Magnesium, AAS, Open vessel (%)	5	5	1.2471	0.07251	1.2471	0.07251	0.03243	5.81%	0.02946	3.87%
027.33	Magnesium, AAS, Microwave (%)	1	1	1.2320							
027.41	Magnesium, ICP, Dry ash (%)	23	22	1.2059	0.07693	1.2058	0.07800	0.02079	6.47%	0.02224	3.89%
027.42	Magnesium, ICP, Open vessel (%)	23	22	1.2147	0.15841	1.2297	0.12698	0.03384	10.33%	0.02746	3.88%
027.43	Magnesium, ICP, Microwave (%)	18	18	1.2200	0.08204	1.2124	0.07164	0.02111	5.91%	0.02926	3.89%

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027.44	Magnesium, ICP, Dry ash (%)	2	2	1.3300	0.16263						
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	1.1874	0.03240	1.1874	0.03240	0.01870	2.73%	0.06260	3.90%
027.53	Magnesium, ICP-MS, Microwave (%)	2	2	1.2785	0.03041						
027.99	Magnesium, Miscellaneous (%)	4	4	1.2238	0.12796	1.2238	0.12796	0.06398	10.46%	0.01750	3.88%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	17	17	1,632.3	650.30	1,830.3	187.30	56.782	10.23%	28.888	5.16%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	4	4	2,149.6	669.63	2,219.7	801.91	462.98	36.13%	13.088	5.02%
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	1	1	2,018.5							
028.34	Manganese, AAS, Dry ash (mg / kg (ppm))	1	1	2,025.6							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	21	1,807.8	184.14	1,821.5	175.41	47.848	9.63%	48.477	5.17%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	22	21	1,840.9	177.56	1,818.0	126.01	34.371	6.93%	34.185	5.17%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	16	15	1,703.6	437.36	1,798.5	159.96	51.626	8.89%	26.603	5.18%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	1	1	1,894.5							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm)	1	1	1,790.1							
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	2	2	1,789.9	198.16						
028.99	Manganese, Miscellaneous (mg / kg (ppm))	3	3	1,956.7	44.041	1,956.7	44.041	25.427	2.25%	20.000	5.11%
031.00	Phosphorus, Vol (%)	1	1	2.9900							
031.01	Phosphorus, Photometric (%)	43	42	3.0353	0.58918	3.0890	0.15436	0.02977	5.00%	0.05884	3.38%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%	5	5	4.0588	2.0826	3.1275	0.02723	0.01362	0.87%	0.02830	3.37%
031.03	Phosphorus, Autoanalyzer (%)	5	5	3.1285	0.27679	3.1285	0.27679	0.12378	8.85%	0.03424	3.37%
031.06	Phosphorus, Hach Method (%)	2	2	2.5953	0.57240						
031.41	Phosphorus, ICP, Dry ash (%)	24	24	3.0917	0.18190	3.0874	0.15242	0.03889	4.94%	0.05977	3.38%
031.42	Phosphorus, ICP, Open vessel (%)	24	23	3.0897	0.24539	3.0920	0.26919	0.07016	8.71%	0.06857	3.37%
031.43	Phosphorus, ICP, Microwave (%)	20	20	3.1236	0.19542	3.1272	0.19216	0.05371	6.15%	0.06824	3.37%
031.44	Phosphorus, ICP, Dry ash (%)	2	2	3.0100	0.00707						
031.52	Phosphorus, ICP-MS, Open vessel (%)	1	1	2.7637							
031.53	Phosphorus, ICP-MS, Microwave (%)	2	2	3.1960	0.38749						
031.99	Phosphorus, Miscellaneous (%)	5	5	2.3980	1.0924	2.3980	1.0924	0.48855	45.56%	0.01600	3.51%
032.02	Potassium, Flame Emission (%)	2	2	0.47805	0.02397						
032.31	Potassium, AAS, Dry ash (%)	17	16	0.58277	0.12231	0.56534	0.09681	0.03025	17.12%	0.01737	4.36%
032.32	Potassium, AAS, Open vessel (%)	3	3	0.46833	0.02082	0.46833	0.02082	0.01202	4.44%	0.01000	4.48%
032.41	Potassium, ICP, Dry ash (%)	23	22	0.56601	0.14428	0.53843	0.08865	0.02362	16.46%	0.01907	4.39%
032.42	Potassium, ICP, Open vessel (%)	21	20	0.49709	0.05509	0.48675	0.03743	0.01046	7.69%	0.01171	4.46%
032.43	Potassium, ICP, Microwave (%)	14	14	0.53884	0.10729	0.53235	0.10750	0.03591	20.19%	0.01690	4.40%
032.44	Potassium, ICP, Dry ash (%)	1	1	0.51850							
032.52	Potassium, ICP-MS, Open vessel (%)	1	1	0.41930							
032.53	Potassium, ICP-MS, Microwave (%)	2	2	0.51150	0.07354						
032.99	Potassium, Miscellaneous (%)	3	2	0.47750	0.03889					0.00500	
033.00	Salt as chloride, Sol Cl (%)	14	13	22.485	5.0474	23.789	0.72872	0.25264	3.06%	0.13075	2.05%

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033.01	Salt as chloride, Poten Cl (%)	27	27	24.236	1.5490	24.141	0.63144	0.15190	2.62%	0.26066	2.04%
033.03	Salt as chloride, Quantab (%)	5	5	22.842	0.68730	22.883	0.78671	0.39335	3.44%	0.05200	2.09%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	22.655	0.93331	23.133	0.61165	0.43250	2.64%	1.2900	2.08%
033.99	Salt, Miscellaneous (%)	9	9	22.086	6.1921	22.628	5.7010	2.3754	25.19%	0.57684	2.10%
034.01	Selenium, Fluor (mg / kg (ppm))	1	1	25.200							
034.04	Selenium, AA, Hydride (mg / kg (ppm))	6	6	22.008	11.267	23.947	7.9359	4.0498	33.14%	1.0087	9.92%
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	1	1	1.5600							
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	2	2	21.850	2.1213						
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	3	3	20.684	7.2723	20.684	7.2723	4.1987	35.16%	0.83980	10.14%
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	23.548	0.14771	23.548	0.14771	0.08528	0.63%	1.2935	9.94%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	3	3	24.774	2.3651	24.774	2.3651	1.3655	9.55%	2.5667	9.87%
035.01	Sodium, Ion-selective electrode (%)	2	2	9.6013	0.34259						
035.05	Sodium, Flame Emission (%)	3	3	9.8567	0.49169	9.8567	0.49169	0.28388	4.99%	0.12667	2.83%
035.31	Sodium, AAS, Dry ash (%)	18	17	9.3095	0.69196	9.2861	0.68499	0.20767	7.38%	0.19172	2.86%
035.32	Sodium, AAS, Open vessel (%)	4	4	8.4846	0.98778	8.1761	0.94477	0.54546	11.56%	0.08060	2.92%
035.41	Sodium, ICP, Dry ash (%)	20	20	9.2255	0.37980	9.2463	0.31985	0.08940	3.46%	0.19498	2.86%
035.42	Sodium, ICP, Open vessel (%)	19	18	9.2875	0.66258	9.3013	0.71662	0.21114	7.70%	0.14512	2.86%
035.43	Sodium, ICP, Microwave (%)	14	14	8.1249	2.4871	8.7284	0.85585	0.28592	9.81%	0.22196	2.89%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	9.4900							
035.52	Sodium, ICP-MS, Open vessel (%)	1	1	9.1553							
035.53	Sodium, ICP-MS, Microwave (%)	2	2	9.3173	0.16582						
035.99	Sodium, Miscellaneous (%)	3	3	9.2467	0.82013	9.2467	0.82013	0.47350	8.87%	0.10000	2.86%
036.00	Sulfur, Gravimetric (%)	1	1	0.68000							
036.04	Sulfur, LECO (%)	2	2	0.45750	0.05303						
036.42	Sulfur, ICP, Open vessel (%)	23	22	0.61056	0.14323	0.57526	0.03447	0.00919	5.99%	0.01447	4.35%
036.43	Sulfur, ICP, Microwave (%)	11	10	0.61343	0.10056	0.60882	0.10337	0.04086	16.98%	0.01426	4.31%
036.52	Sulfur, ICP-MS, Open vessel (%)	1	1	6,148.5							
036.99	Sulfur, Miscellaneous (%)	2	2	0.64750	0.13081						
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	23	21	2,635.6	242.37	2,615.1	164.36	44.834	6.29%	30.890	4.89%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	4	4	2,642.6	65.863	2,642.6	65.863	32.931	2.49%	44.698	4.89%
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	1	1	2,742.5							
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	22	22	2,509.7	235.14	2,525.8	210.22	56.024	8.32%	73.594	4.92%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	22	20	2,488.4	174.10	2,494.3	183.55	51.303	7.36%	56.409	4.93%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	19	18	2,326.1	559.75	2,425.4	269.34	79.356	11.11%	48.852	4.95%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	2	2	2,512.5	59.397						
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	2	2	2,319.8	133.50						
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	2	2	2,436.7	153.19						
037.99	Zinc, Miscellaneous (mg / kg (ppm))	6	6	2,517.6	154.68	2,517.6	175.41	89.514	6.97%	27.500	4.92%

Sample # 201698 **Issue Date : 09/30/2016**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value - Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	1	1	1.9000							
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	2	2	3.3963	0.31639						
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	5	5	2.8176	0.93673	2.8176	0.93673	0.41892	33.25%	0.20568	13.69%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm	1	1	4.0129							
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	1	1	4.2085							
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	13.815							
040.52	Barium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	11.857							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	12.481							
042.00	Chloride, Titrimetric (%)	3	3	14.883	0.24007	14.883	0.24007	0.13860	1.61%	0.11333	2.59%
042.01	Chloride, Ion-selective electrode (%)	1	1	12.650							
042.02	Chloride, Ion Chromatography (%)	1	1	14.550							
042.99	Chloride, Miscellaneous (%)	1	1	16.020							
051.00	Chlortetracycline, Plate (mg / kg (ppm))	6	5	413.10	61.964	413.10	61.964	34.639	15.00%	14.382	6.46%
051.03	Chlortetracycline, LC (mg / kg (ppm))	12	12	374.31	86.022	371.23	90.528	32.667	24.39%	26.093	6.57%
051.99	Chlortetracycline, Miscellaneous (mg / kg (ppm))	1	1	412.50							
073.03	Oxytetracycline, LC (mg / kg (ppm))	1	1	10.000							
095.03	Methoprene, GC (mg/kg (ppm))	1	1	62.280							
095.99	Methoprene, Miscellaneous (mg/kg (ppm))	1	1	4.5250							
101.01	Choline Chloride, Chem (mg / kg (ppm))	1		0.00000							
101.02	Choline Chloride, LC (mg / kg (ppm))	1	1	59.950							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	3.9150							
102.02	Niacin, LC (mg / kg (ppm))	1	1	10.010							
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	3.1200							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	1	1	1.1450							
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	0.17000							
106.00	Vitamin A, Color (KU / kg)	2	2	111.31	13.378						
106.01	Vitamin A, UV (KU / kg)	1	1	84.600							
106.02	Vitamin A, LC (KU / kg)	20	19	84.766	18.030	83.527	14.661	4.2045	17.55%	5.7014	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	9.6100							
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	4.5000							
108.02	Vitamin D3, LC (KU / kg)	5	5	7.9480	1.1369	7.9480	1.1369	0.50842	14.30%	1.1400	
108.99	Vitamin D3, Miscellaneous (KU / kg)	1	1	8.1800							
109.02	Vitamin E, LC (IU/kg)	17	16	197.01	38.504	194.54	32.486	10.152	16.70%	12.281	
109.99	Vitamin E, Miscellaneous (IU/kg)	1	1	172.50							
111.01	Vitamin C, Ascorbic Acid, LC (mkg/kg (ppm))	1	1	20.700							
112.01	Pyridoxine, LC (µg / g)	1	1	0.92500							
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	0.10700							
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.07725							

Sample # 201698 **Issue Date : 09/30/2016**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value - Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
120.00	Alanine, Post-col Ninhydrin Der (%)	2	2	0.06580	0.00021						
120.05	Alanine, Pre-col AQC Der (%)	1	1	0.06250							
121.00	Arginine, Post-col Ninhydrin Der (%)	2	2	0.04838	0.00074						
121.05	Arginine, Pre-col AQC Der (%)	1	1	0.05000							
122.00	Aspartic, Post-col Ninhydrin Der (%)	2	2	0.17848	0.00902						
122.05	Aspartic, Pre-col AQC Der (%)	1	1	0.18150							
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	2	1	0.01885							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	1	1	0.01450							
125.00	Glutamic, Post-col Ninhydrin Der (%)	2	2	0.15168	0.00301						
125.05	Glutamic, Pre-col AQC Der (%)	1	1	0.15400							
126.00	Glycine, Post-col Ninhydrin Der (%)	2	2	0.07540	0.00247						
126.05	Glycine, Pre-col AQC Der (%)	1	1	0.07950							
127.00	Histidine, Post-col Ninhydrin Der (%)	2	2	0.02268	0.01694						
127.05	Histidine, Pre-col AQC Der (%)	1	1	0.02400							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	2	2	0.03775	0.00247						
128.05	Isoleucine, Pre-col AQC Der (%)	1	1	0.04100							
129.00	Leucine, Post-col Ninhydrin Der (%)	2	2	0.06743	0.00795						
129.05	Leucine, Pre-col AQC Der (%)	1	1	0.06850							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	2	2	0.02620	0.01782						
130.05	L-Lysine, Pre-col AQC Der (%)	1	1	0.04600							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	2	1	0.01015							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	2	2	0.05068	0.02867						
132.05	Phenylalanine, Pre-col AQC Der (%)	1	1	0.04000							
133.00	Proline, Post-col Ninhydrin Der (%)	2	2	0.05468	0.00767						
133.05	Proline, Pre-col AQC Der (%)	1	1	0.06200							
134.00	Serine, Post-col Ninhydrin Der (%)	2	2	0.05550	0.00544						
134.05	Serine, Pre-col AQC Der (%)	1	1	0.06100							
135.00	Threonine, Post-col Ninhydrin Der (%)	2	2	0.03330	0.00707						
135.05	Threonine, Pre-col AQC Der (%)	1	1	0.03900							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	2	1	0.00915							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	2	1	0.06065							
137.05	Tyrosine, Pre-col AQC Der (%)	1	1	0.04750							
138.00	Valine, Post-col Ninhydrin Der (%)	2	2	0.03310	0.02531						
138.05	Valine, Pre-col AQC Der (%)	1	1	0.05450							
160.99	Fructose, Miscellaneous (%)	2	2	0.17175	0.03995						
162.99	Glucose, Miscellaneous (%)	2	1	0.42700							
165.99	Sucrose, Miscellaneous (%)	2	2	2.5280	0.16546						
400.01	Water activity, Aqualab chilled mirror (Units)	4	4	0.37691	0.01635	0.36955	0.00871	0.00503	2.36%	0.01263	

Sample # 201698 **Issue Date : 09/30/2016**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value - Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
400.99	Water activity, Miscellaneous (Units)	2	2	0.38150	0.00141						
516.43	Arsenic, total, ICP, Microwave (mg / kg (ppm))	1	1	3.4416							
516.52	Arsenic, total, ICP-MS, Open vessel (mg / kg (ppm	1	1	2.3459							
516.53	Arsenic, total, ICP-MS, Microwave (mg / kg (ppm)	4	4	3.0367	0.37289	3.0367	0.37289	0.18645	12.28%	0.14613	13.53%
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	2	2	0.49450	0.14920						
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	2	2	1.5172	1.1777						
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	0.74555							
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.77314	0.00390	0.77314	0.00390	0.00195	0.50%	0.04208	16.63%
520.31	Chromium, AAS, Dry ash (mg / kg (ppm))	3	3	43.638	7.3300	43.638	7.3300	4.2320	16.80%	2.1700	9.06%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	4	4	8,603.9	17,164	21.903	7.0101	4.0473	32.00%	12.295	10.05%
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	3	3	37.462	2.2323	37.462	2.2323	1.2888	5.96%	0.94203	9.27%
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	34.551							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	1	1	39.655							
526.31	Lead, AAS, Dry ash (mg / kg (ppm))	1	1	1.9900							
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	2	2	0.35675	0.48543						
526.43	Lead, ICP, Microwave (mg / kg (ppm))	1	1	1.5773							
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	1	1	1.4820							
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	4	4	1.6412	0.08628	1.5983	0.01155	0.00667	0.72%	0.09443	14.91%
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	1	1	8.6000							
539.43	Nickel, ICP, Microwave (mg / kg (ppm))	2	2	15.010	1.0036						
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	15.328							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	1	1	13.043							

Notes: Robust statistics not used if < 6 labs reporting, in this case means and SD's may be reported based on Raw Data with obvious blunders removed.

AAFCO Proficiency Testing Program

AAFCO PTP Animal Feed Scheme

Animal Feed Scheme
Cattle Mineral
Sample # 201698

Method Precision Report

 # Methods Reported: 56
 # Labs Reporting: 161
Issue Date : 09/30/2016

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	21	15	2.0244	0.14803	0.14618	0.03299	0.14986	7.22%	1.630%	7.40%	4.5420
001.99	Loss on Drying, Miscellaneous (%)	9	8	2.0200	0.25278	0.25276	0.00500	0.25281	12.51%	0.248%	12.52%	50.562
002.06	Protein, Combustion Nitrogen Analyzer (%)	31	27	1.7256	0.38019	0.37686	0.07102	0.38350	21.84%	4.116%	22.22%	5.4002
003.10	Fat, Soxtec, Pet Ether (%)	10	8	0.71133	0.19316	0.19059	0.04444	0.19570	26.79%	6.248%	27.51%	4.4033
003.14	Fat, Ankom (%)	14	11	0.83459	0.12368	0.12221	0.02683	0.12512	14.64%	3.214%	14.99%	4.6642
004.07	Fiber, ANKOM (%)	9	8	3.5515	0.62417	0.61885	0.11492	0.62943	17.42%	3.236%	17.72%	5.4771
005.00	Ash, 2h @ 600°C (%)	42	37	76.338	1.5032	1.4945	0.22826	1.5118	1.96%	0.299%	1.98%	6.6233
005.05	Ash, 3h @ 550°C (%)	12	12	77.137	0.76354	0.75697	0.14132	0.77005	0.98%	0.183%	1.00%	5.4491
008.08	Fiber, Acid Detergent, ANKOM (%)	9	8	3.4326	0.49496	0.45107	0.28817	0.53526	13.14%	8.395%	15.59%	1.8575
011.01	Loss on Drying, 135°C 2hr (%)	32	29	3.2261	0.32640	0.32104	0.08336	0.33168	9.95%	2.584%	10.28%	3.9790
013.02	Fat, Mojonnier, Bak Ext (%)	9	8	1.9652	0.85928	0.85773	0.07284	0.86082	43.65%	3.706%	43.80%	11.819
019.00	Calcium, Ox-Mn04 Vol. (%)	13	10	18.055	0.31837	0.28188	0.20931	0.35110	1.56%	1.159%	1.94%	1.6774
019.31	Calcium, AAS, Dry ash (%)	26	23	18.079	1.1571	1.1502	0.17831	1.1640	6.36%	0.986%	6.44%	6.5277
019.41	Calcium, ICP, Dry ash (%)	23	22	18.038	0.76494	0.66968	0.52278	0.84958	3.71%	2.898%	4.71%	1.6251
019.42	Calcium, ICP, Open vessel (%)	24	21	17.794	1.3797	1.3581	0.34420	1.4010	7.63%	1.934%	7.87%	4.0704
019.43	Calcium, ICP, Microwave (%)	20	20	17.688	0.95057	0.94192	0.18090	0.95913	5.33%	1.023%	5.42%	5.3021
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	21	19	1,288.3	74.158	72.757	20.290	75.533	5.65%	1.575%	5.86%	3.7226
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	21	1,242.1	87.621	86.647	18.424	88.584	6.98%	1.483%	7.13%	4.8080
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	23	20	1,284.9	96.293	95.282	19.674	97.292	7.42%	1.531%	7.57%	4.9452
022.43	Copper, ICP, Microwave (mg / kg (ppm))	20	19	1,279.3	103.92	102.99	19.606	104.84	8.05%	1.533%	8.19%	5.3472
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	16	15	5,899.9	608.04	606.09	68.834	609.98	10.27%	1.167%	10.34%	8.8616
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	22	21	5,607.1	433.47	422.81	135.11	443.87	7.54%	2.410%	7.92%	3.2854
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	18	17	5,510.8	419.80	415.58	84.025	423.99	7.54%	1.525%	7.69%	5.0460
025.43	Iron, ICP, Microwave (mg / kg (ppm))	17	16	5,455.9	594.84	585.28	150.20	604.25	10.73%	2.753%	11.08%	4.0228
027.31	Magnesium, AAS, Dry ash (%)	22	20	1.2460	0.08881	0.08611	0.03070	0.09142	6.91%	2.464%	7.34%	2.9776
027.41	Magnesium, ICP, Dry ash (%)	23	21	1.2122	0.07267	0.07146	0.01866	0.07386	5.90%	1.540%	6.09%	3.9573
027.42	Magnesium, ICP, Open vessel (%)	23	20	1.2519	0.10436	0.10333	0.02074	0.10539	8.25%	1.656%	8.42%	5.0824
027.43	Magnesium, ICP, Microwave (%)	18	16	1.2105	0.05792	0.05490	0.02609	0.06078	4.54%	2.155%	5.02%	2.3300
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	17	15	1,849.9	228.55	227.45	31.579	229.63	12.30%	1.707%	12.41%	7.2717
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	20	1,831.1	154.04	151.32	40.764	156.72	8.26%	2.226%	8.56%	3.8444
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	22	19	1,812.3	109.15	107.21	28.929	111.05	5.92%	1.596%	6.13%	3.8387
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	16	14	1,811.0	140.22	139.12	24.797	141.31	7.68%	1.369%	7.80%	5.6989

Sample # 201698 **Issue Date : 09/30/2016**

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031.01	Phosphorus, Photometric (%)	43	38	3.0921	0.38129	0.38032	0.03853	0.38226	12.30%	1.246%	12.36%	9.9223
031.41	Phosphorus, ICP, Dry ash (%)	24	22	3.0844	0.14363	0.13871	0.05267	0.14838	4.50%	1.708%	4.81%	2.8172
031.42	Phosphorus, ICP, Open vessel (%)	24	22	3.0749	0.24045	0.23743	0.05375	0.24344	7.72%	1.748%	7.92%	4.5288
031.43	Phosphorus, ICP, Microwave (%)	20	18	3.0939	0.17730	0.17485	0.04149	0.17971	5.65%	1.341%	5.81%	4.3311
032.31	Potassium, AAS, Dry ash (%)	17	15	0.58462	0.12637	0.12607	0.01224	0.12667	21.56%	2.094%	21.67%	10.345
032.41	Potassium, ICP, Dry ash (%)	23	21	0.54391	0.10286	0.10209	0.01775	0.10362	18.77%	3.263%	19.05%	5.8386
032.42	Potassium, ICP, Open vessel (%)	21	20	0.49709	0.05509	0.05454	0.01100	0.05564	10.97%	2.214%	11.19%	5.0567
032.43	Potassium, ICP, Microwave (%)	14	13	0.53749	0.11155	0.11121	0.01231	0.11189	20.69%	2.290%	20.82%	9.0907
033.00	Salt as chloride, Sol Cl (%)	14	12	23.876	0.58578	0.57862	0.12915	0.59285	2.42%	0.541%	2.48%	4.5906
033.01	Salt as chloride, Poten Cl (%)	27	25	24.247	0.94510	0.93068	0.23260	0.95930	3.84%	0.959%	3.96%	4.1243
033.99	Salt, Miscellaneous (%)	9	9	22.086	6.1921	6.1795	0.55772	6.2046	27.98%	2.525%	28.09%	11.125
035.31	Sodium, AAS, Dry ash (%)	18	17	9.3095	0.69196	0.68271	0.15948	0.70109	7.33%	1.713%	7.53%	4.3960
035.41	Sodium, ICP, Dry ash (%)	20	19	9.2826	0.28872	0.25705	0.18593	0.31725	2.77%	2.003%	3.42%	1.7063
035.42	Sodium, ICP, Open vessel (%)	19	17	9.2435	0.65534	0.65009	0.11708	0.66055	7.03%	1.267%	7.15%	5.6419
035.43	Sodium, ICP, Microwave (%)	14	12	8.7024	0.90395	0.89478	0.18162	0.91303	10.28%	2.087%	10.49%	5.0270
036.42	Sulfur, ICP, Open vessel (%)	23	20	0.57364	0.03619	0.03506	0.01270	0.03729	6.11%	2.214%	6.50%	2.9363
036.43	Sulfur, ICP, Microwave (%)	11	10	0.61343	0.10056	0.10007	0.01396	0.10104	16.31%	2.275%	16.47%	7.2394
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	23	19	2,601.5	200.15	199.33	25.559	200.96	7.66%	0.982%	7.72%	7.8626
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	22	21	2,540.0	192.05	184.72	74.316	199.11	7.27%	2.926%	7.84%	2.6792
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	22	19	2,501.0	169.21	166.11	45.576	172.25	6.64%	1.822%	6.89%	3.7793
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	19	16	2,455.9	232.48	229.95	48.362	234.98	9.36%	1.969%	9.57%	4.8588
051.03	Chlortetracycline, LC (mg / kg (ppm))	12	12	374.31	86.022	84.196	24.934	87.810	22.49%	6.661%	23.46%	3.5217
106.02	Vitamin A, LC (KU / kg)	20	18	81.836	13.097	12.579	5.1542	13.594	15.37%	6.298%	16.61%	2.6375
109.02	Vitamin E, LC (IU/kg)	17	15	197.72	39.746	39.330	8.1109	40.157	19.89%	4.102%	20.31%	4.9511

Notes: Precision Calculations provided for methods with 8 or more labs used in calculations.