

Animal Feed Scheme
Chicken Starter, Medicated
Test Material Code # 201832

Method Summary Report
(Precision Report Follows)

Methods Reported: 369
Labs Reporting: 194
Issue Date : 01/31/2019

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	0.3000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	6	6	9.449	0.4893	9.449	0.5548	0.2831	5.87%	0.0592	2.85%
001.02	Loss on Drying, Vac on sand (%)	1	1	9.180							
001.03	Loss on Drying, Low temp. methods (%)	3	3	9.671	0.1787	9.671	0.1787	0.1290	1.85%	0.0200	2.84%
001.05	Loss on Drying, LECO (%)	2	2	9.235	0.2687						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	49	48	9.282	0.3194	9.314	0.2699	0.0487	2.90%	0.1251	2.86%
001.99	Loss on Drying, Miscellaneous (%)	23	23	9.034	0.6709	9.082	0.6560	0.1710	7.22%	0.1072	2.87%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	16	16	20.45	0.2902	20.48	0.2098	0.0656	1.02%	0.1510	2.21%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	4	4	20.09	0.3676	20.09	0.3676	0.2298	1.83%	0.1163	2.23%
002.03	Protein, Crude, Hach Method (%)	1	1	20.19							
002.04	Protein, Crude, Copper Catalyst (%)	4	4	20.24	0.4656	20.24	0.4656	0.2910	2.30%	0.2200	2.22%
002.05	Protein, Crude, Copper, Boric Acid (%)	33	32	20.40	0.4037	20.41	0.2257	0.0499	1.11%	0.0872	2.21%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	123	120	20.62	0.8468	20.68	0.2665	0.0304	1.29%	0.1934	2.20%
002.08	Protein, Crude, Cu/Ti (%)	1	1	20.36							
002.10	Protein, Crude, Block dig/distillation (%)	1	1	20.20							
002.11	Protein, Crude, NIR (%)	8	8	20.65	1.006	20.65	1.141	0.5043	5.53%	0.1000	2.20%
002.99	Protein, Crude, Miscellaneous (%)	1	1	20.11							
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	12	12	3.794	0.2025	3.799	0.1970	0.0711	5.18%	0.0850	3.27%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	3.440							
003.06	Fat, Crude, Pet Ether (%)	17	17	3.837	0.2750	3.873	0.2084	0.0632	5.38%	0.1075	3.26%
003.07	Fat, Crude, Aqueous Extraction (%)	1	1	3.680							
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	19	19	3.793	0.1535	3.792	0.1679	0.0482	4.43%	0.0945	3.27%
003.10	Fat, Crude, Randall, Pet Ether (%)	29	28	3.693	0.2454	3.689	0.1631	0.0385	4.42%	0.0843	3.29%
003.11	Fat, Crude, NIR (%)	9	9	3.914	0.2602	3.914	0.2951	0.1229	7.54%	0.0733	3.26%
003.12	Fat, Crude, Hexane Ext (%)	6	6	3.835	0.2646	3.835	0.3001	0.1531	7.82%	0.0323	3.27%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	9	8	3.742	0.1136	3.735	0.1120	0.0495	3.00%	0.0498	3.28%
003.14	Fat, Crude, Ankom (%)	48	47	3.601	0.3507	3.648	0.1527	0.0278	4.19%	0.1230	3.29%
003.99	Fat, Crude, Miscellaneous (%)	3	3	3.802	0.3676	3.802	0.3676	0.2653	9.67%	0.0633	3.27%
004.00	Fiber, Crude, Asbestos Free (%)	17	16	3.849	0.4044	3.783	0.2372	0.0741	6.27%	0.1287	3.27%
004.03	Fiber, Crude, Fritted Glass (%)	4	4	3.690	1.032	3.690	1.032	0.6449	27.96%	0.3105	3.29%
004.06	Fiber, Crude, Fibertec (%)	22	22	3.762	0.3125	3.772	0.2964	0.0790	7.86%	0.1203	3.28%
004.07	Fiber, Crude, ANKOM (%)	66	64	3.620	0.5640	3.592	0.4387	0.0685	12.21%	0.1790	3.30%

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004.11	Fiber, Crude, NIR (%)	7	7	3.281	0.8034	3.281	0.9110	0.4304	27.76%	0.0600	3.34%
004.99	Fiber, Crude, Miscellaneous (%)	5	5	3.392	0.1836	3.392	0.1836	0.1026	5.41%	0.0680	3.33%
005.00	Ash, 2h @ 600°C (%)	89	88	6.815	0.1802	6.814	0.1801	0.0240	2.64%	0.0819	3.00%
005.02	Ash, LECO (%)	2	2	7.188	0.3712						
005.03	Ash, Microwave furnace (%)	1	1	6.700							
005.05	Ash, 3h @ 550°C (%)	33	32	7.039	0.1370	7.051	0.1133	0.0250	1.61%	0.0734	2.98%
005.11	Ash, NIR (%)	4	4	8.451	1.195	8.451	1.195	0.7466	14.13%	0.2725	2.90%
005.99	Ash, Miscellaneous (%)	10	10	6.840	0.5538	6.893	0.5063	0.2001	7.35%	0.0652	2.99%
006.00	Total Sugars, As sucrose (%)	3	3	3.880	0.6255	3.880	0.6255	0.5529	16.12%	0.3733	3.26%
006.99	Total Sugars, Miscellaneous (%)	2	2	3.595	1.209						
008.02	Fiber, Acid Detergent, Crucible (%)	13	13	4.906	0.5710	4.955	0.5324	0.1846	10.75%	0.1903	3.14%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	5.570							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	40	39	5.251	0.5122	5.255	0.5650	0.1131	10.75%	0.1818	3.12%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	3	3	5.162	1.296	5.162	1.296	0.9352	25.11%	0.5500	3.12%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	13.30							
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	12	13.48	1.768	13.28	1.514	0.5462	11.40%	0.4341	2.71%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	39	38	13.35	1.912	12.98	0.8431	0.1710	6.49%	0.3458	2.72%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	2	2	13.48	1.234						
010.03	Moisture, Karl-Fischer (%)	2	2	9.483	0.0813						
010.11	Moisture, NIR (%)	5	5	9.684	0.5639	9.684	0.5639	0.3152	5.82%	0.0440	2.84%
010.99	Moisture, Miscellaneous (%)	19	17	8.773	2.038	9.236	0.4163	0.1262	4.51%	0.1443	2.86%
011.01	Loss on Drying, 135°C 2hr (%)	62	60	9.853	0.3955	9.878	0.3450	0.0557	3.49%	0.0779	2.83%
011.02	Loss on Drying, 130°C for 2 hours (%)	4	3	9.883	0.6426	9.883	0.6426	0.4637	6.50%	0.0267	2.83%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	9.855	0.5021						
012.00	Starch, Polarimetric (Ewers) (%)	16	16	39.90	0.9440	39.94	0.8409	0.2628	2.11%	0.3329	1.58%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	11	37.78	3.358	37.89	3.542	1.335	9.35%	1.222	1.62%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	5	5	39.45	1.872	39.45	1.872	1.047	4.75%	0.8240	1.59%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	4	4	34.30	7.023	34.30	7.023	4.390	20.48%	0.4000	1.71%
012.11	Starch, NIR (%)	2	2	35.97	1.789						
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	19	18	4.503	0.4652	4.503	0.5041	0.1485	11.19%	0.1429	3.19%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	17	4.984	0.3055	4.987	0.3408	0.1033	6.83%	0.1253	3.14%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	3.215							
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	5	4	4.238	0.3758	4.238	0.3758	0.2349	8.87%	0.0722	3.22%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	7	7	4.469	0.6601	4.469	0.7486	0.3537	16.75%	0.1798	3.19%
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	4	4	89.95	13.05	89.95	13.05	8.153	14.50%	5.618	8.13%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	78.00							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	6	6	80.48	12.73	80.48	14.44	7.369	17.94%	7.192	8.26%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	47.15							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	1	1	107.5							
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	5	5	8.037	1.338	8.037	1.338	0.7480	16.65%	0.3820	11.69%

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017.42	Boron, ICP, Open vessel (mg / kg (ppm))	5	5	6.531	1.840	6.531	1.840	1.028	28.17%	0.3574	12.06%
017.43	Boron, ICP, Microwave (mg / kg (ppm))	5	5	6.787	0.5597	6.787	0.5597	0.3129	8.25%	0.3220	11.99%
019.00	Calcium, Ox-Mn04 Vol. (%)	10	10	1.511	0.0565	1.513	0.0595	0.0235	3.93%	0.0209	3.76%
019.02	Calcium, Hach Method (%)	1	1	1.816							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	1.604							
019.08	Calcium, EDTA (%)	14	13	1.462	0.1387	1.479	0.0936	0.0325	6.33%	0.0291	3.77%
019.09	Calcium, Ion-selective electrode (%)	1	1	1.583							
019.31	Calcium, AAS, Dry ash (%)	18	17	1.506	0.0810	1.513	0.0525	0.0159	3.47%	0.0287	3.76%
019.32	Calcium, AAS, Open vessel (%)	1	1	1.500							
019.33	Calcium, AAS, Microwave (%)	1	1	1.550							
019.41	Calcium, ICP, Dry ash (%)	27	26	1.497	0.0695	1.495	0.0710	0.0174	4.75%	0.0204	3.76%
019.42	Calcium, ICP, Open vessel (%)	21	20	1.544	0.1099	1.535	0.1014	0.0284	6.61%	0.0280	3.75%
019.43	Calcium, ICP, Microwave (%)	26	25	1.506	0.1198	1.519	0.0993	0.0248	6.54%	0.0207	3.76%
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	1.555							
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	1.497	0.1251	1.497	0.1251	0.0902	8.35%	0.0694	3.76%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	1.511	0.0333	1.511	0.0333	0.0208	2.20%	0.0825	3.76%
019.99	Calcium, Miscellaneous (%)	4	4	1.489	0.0712	1.489	0.0712	0.0445	4.78%	0.0575	3.77%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	1	1	1.500							
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	3	3	1.620	0.2308	1.620	0.2308	0.2040	14.25%	0.0517	14.88%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	2	2	1.143	0.0665						
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	5	5	1.236	0.1004	1.236	0.1004	0.0561	8.12%	0.0544	15.49%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.7730	0.0325						
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	4	4	1.156	0.2564	1.156	0.2564	0.1603	22.19%	0.0989	15.65%
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	9	9	24.61	1.989	24.55	2.126	0.8857	8.66%	0.5801	9.88%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	2	2	23.01	1.481						
022.33	Copper, AAS, Microwave (mg / kg (ppm))	2	2	24.32	0.9560						
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	22	22	23.42	3.468	23.16	2.744	0.7313	11.85%	0.9206	9.97%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	19	19	25.43	2.277	25.35	1.866	0.5351	7.36%	1.797	9.83%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	23	22	23.98	2.211	24.02	2.042	0.5441	8.50%	1.167	9.91%
022.44	Copper, ICP, Dry ash (mg / kg (ppm))	1	1	28.15							
022.51	Copper, ICP-MS, Dry ash (mg / kg (ppm))	1	1	25.13							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	28.58	6.258						
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	3	3	23.34	1.587	23.34	1.587	1.146	6.80%	1.290	9.96%
022.99	Copper, Miscellaneous (mg / kg (ppm))	4	3	24.85	2.548	24.85	2.548	1.839	10.25%	0.8600	9.86%
023.01	Fluorine, Ion Sel Elect (mg / kg (ppm))	1	1	5.000							
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	12	12	245.9	17.36	245.9	19.68	7.102	8.00%	5.672	6.99%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	175.8							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	21	21	241.1	16.12	240.4	16.42	4.479	6.83%	7.190	7.01%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	16	16	223.2	28.22	224.7	28.65	8.953	12.75%	7.155	7.08%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	20	19	238.2	21.15	237.2	20.46	5.868	8.63%	4.943	7.02%

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025.51	Iron, ICP-MS, Dry ash (mg / kg (ppm))	1	1	253.8							
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	1	1	205.7							
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	2	2	250.5	8.549						
025.99	Iron, Miscellaneous (mg / kg (ppm))	3	3	231.0	9.539	231.0	9.539	6.884	4.13%	7.333	7.05%
027.31	Magnesium, AAS, Dry ash (%)	10	10	0.1910	0.0085	0.1907	0.0090	0.0035	4.70%	0.0017	5.13%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.2000							
027.33	Magnesium, AAS, Microwave (%)	2	2	0.2203	0.0527						
027.41	Magnesium, ICP, Dry ash (%)	23	23	0.1907	0.0112	0.1900	0.0108	0.0028	5.67%	0.0033	5.14%
027.42	Magnesium, ICP, Open vessel (%)	21	21	0.1932	0.0081	0.1930	0.0085	0.0023	4.40%	0.0053	5.12%
027.43	Magnesium, ICP, Microwave (%)	24	24	0.1900	0.0152	0.1890	0.0129	0.0033	6.82%	0.0023	5.14%
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.1950							
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.1962	0.0167	0.1962	0.0167	0.0120	8.49%	0.0024	5.11%
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.1913	0.0028	0.1913	0.0028	0.0020	1.44%	0.0060	5.13%
027.99	Magnesium, Miscellaneous (%)	3	3	0.1967	0.0116	0.1967	0.0116			0.0000	5.11%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	10	10	111.3	4.611	111.3	5.229	2.067	4.70%	1.407	7.87%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	2	2	124.1	0.4950						
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	1	1	96.59							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	21	110.6	10.70	111.3	9.669	2.637	8.69%	3.926	7.87%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	19	19	116.9	8.267	117.0	8.321	2.386	7.11%	3.674	7.81%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	22	22	115.1	10.80	114.4	9.964	2.655	8.71%	3.319	7.84%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	1	1	103.0							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	2	2	110.3	6.010						
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	4	3	114.9	1.574	114.9	1.574	1.391	1.37%	5.697	7.83%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	5	5	114.4	6.780	114.4	6.780	3.790	5.93%	6.260	7.84%
031.00	Phosphorus, Vol (%)	1	1	0.7600							
031.01	Phosphorus, Photometric (%)	42	40	0.7303	0.0355	0.7325	0.0246	0.0049	3.36%	0.0116	4.19%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	1	1	0.7400							
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.7132	0.0160	0.7132	0.0160	0.0115	2.24%	0.0052	4.21%
031.06	Phosphorus, Hach Method (%)	1	1	0.8250							
031.41	Phosphorus, ICP, Dry ash (%)	26	25	0.7414	0.0342	0.7403	0.0322	0.0080	4.34%	0.0110	4.18%
031.42	Phosphorus, ICP, Open vessel (%)	19	19	0.7378	0.0434	0.7383	0.0481	0.0138	6.51%	0.0185	4.19%
031.43	Phosphorus, ICP, Microwave (%)	24	24	0.7459	0.0378	0.7498	0.0313	0.0080	4.17%	0.0105	4.18%
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.7853	0.1390						
031.53	Phosphorus, ICP-MS, Microwave (%)	4	3	0.7562	0.0347	0.7562	0.0347	0.0250	4.58%	0.0150	4.17%
031.99	Phosphorus, Miscellaneous (%)	4	4	0.7428	0.0259	0.7428	0.0259	0.0162	3.48%	0.0132	4.18%
032.08	Potassium, Ion-selective electrode (%)	1	1	1.385							
032.31	Potassium, AAS, Dry ash (%)	10	9	1.009	0.2878	0.9364	0.1095	0.0456	11.69%	0.0122	4.04%
032.32	Potassium, AAS, Open vessel (%)	1	1	0.9700							
032.33	Potassium, AAS, Microwave (%)	1	1	0.9850							
032.41	Potassium, ICP, Dry ash (%)	23	23	0.8782	0.0486	0.8805	0.0497	0.0129	5.64%	0.0225	4.08%

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032.42	Potassium, ICP, Open vessel (%)	19	19	0.9091	0.0424	0.9090	0.0365	0.0105	4.02%	0.0284	4.06%
032.43	Potassium, ICP, Microwave (%)	25	24	0.8875	0.0396	0.8880	0.0409	0.0104	4.61%	0.0098	4.07%
032.52	Potassium, ICP-MS, Open vessel (%)	3	3	0.8767	0.0153	0.8767	0.0153	0.0110	1.75%	0.0384	4.08%
032.53	Potassium, ICP-MS, Microwave (%)	3	3	0.9517	0.0535	0.9517	0.0535	0.0386	5.62%	0.0720	4.03%
032.99	Potassium, Miscellaneous (%)	3	3	0.9100	0.0050	0.9100	0.0050	0.0036	0.55%	0.0200	4.06%
033.00	Salt as chloride, Sol Cl (%)	24	23	0.7404	0.0843	0.7359	0.0746	0.0194	10.14%	0.0182	4.19%
033.01	Salt as chloride, Poten Cl (%)	30	29	0.7821	0.0249	0.7796	0.0198	0.0046	2.54%	0.0127	4.15%
033.03	Salt as chloride, Quantab (%)	6	6	0.5933	0.1193	0.5748	0.0893	0.0456	15.54%	0.0233	4.35%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	3.641	4.992	3.641	4.992	4.412	137.10%	0.0240	3.29%
033.99	Salt, Miscellaneous (%)	9	9	1.191	1.309	0.7793	0.1257	0.0524	16.13%	0.0387	4.15%
034.04	Selenium, AA, Hydride (mg / kg (ppm))	3	3	0.5626	0.1046	0.5626	0.1046	0.0755	18.60%	0.0246	17.44%
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	2	2	0.4685	0.2850						
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	2	1	0.5608							
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	2	2	1.004	0.5820						
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.6027	0.0295	0.6027	0.0295	0.0213	4.89%	0.0180	17.26%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	7	7	0.6442	0.1416	0.6442	0.1605	0.0758	24.92%	0.0356	17.09%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	1.325							
035.01	Sodium, Ion-selective electrode (%)	1	1	0.3215							
035.05	Sodium, Flame Emission (%)	3	3	0.3017	0.0176	0.3017	0.0176	0.0155	5.82%	0.0033	4.79%
035.31	Sodium, AAS, Dry ash (%)	11	10	0.2963	0.0263	0.2955	0.0283	0.0112	9.56%	0.0051	4.81%
035.32	Sodium, AAS, Open vessel (%)	1	1	0.3000							
035.41	Sodium, ICP, Dry ash (%)	22	22	0.2781	0.0173	0.2782	0.0148	0.0039	5.32%	0.0075	4.85%
035.42	Sodium, ICP, Open vessel (%)	17	17	0.2997	0.0526	0.2861	0.0206	0.0062	7.19%	0.0099	4.83%
035.43	Sodium, ICP, Microwave (%)	20	19	0.2855	0.0327	0.2835	0.0188	0.0054	6.63%	0.0060	4.84%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.2900							
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.3003	0.0160						
035.53	Sodium, ICP-MS, Microwave (%)	4	4	0.2884	0.0039	0.2884	0.0039	0.0025	1.37%	0.0148	4.82%
035.99	Sodium, Miscellaneous (%)	4	4	0.2896	0.0111	0.2896	0.0111	0.0069	3.84%	0.0051	4.82%
036.04	Sulfur, LECO (%)	3	3	0.2535	0.0112	0.2535	0.0112	0.0099	4.43%	0.0025	4.92%
036.42	Sulfur, ICP, Open vessel (%)	20	19	0.2512	0.0239	0.2513	0.0238	0.0068	9.47%	0.0056	4.92%
036.43	Sulfur, ICP, Microwave (%)	11	11	0.2521	0.0114	0.2516	0.0118	0.0044	4.69%	0.0070	4.92%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.2600	0.0149						
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.2755							
036.99	Sulfur, Miscellaneous (%)	1	1	0.2450							
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	10	10	135.7	7.290	135.7	8.267	3.268	6.09%	2.205	7.64%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	2	2	133.6	9.596						
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	1	1	167.9							
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	22	135.9	11.08	137.6	8.664	2.309	6.30%	4.615	7.62%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	18	18	138.9	8.237	138.6	8.659	2.551	6.25%	5.512	7.62%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	23	22	138.4	13.06	138.3	13.90	3.705	10.05%	3.187	7.62%

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037.51	Zinc, ICP-MS, Dry ash (mg / kg (ppm))	1	1	146.2							
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	2	2	139.0	2.121						
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	2	2	142.6	3.458						
037.99	Zinc, Miscellaneous (mg / kg (ppm))	4	4	144.3	9.544	144.3	9.544	5.965	6.62%	6.500	7.57%
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	2	2	1.019	0.1146						
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	4	1.617	1.498	1.617	1.498	0.9363	92.67%	0.3480	14.88%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	7	7	0.9915	0.1978	0.9915	0.2243	0.1060	22.62%	0.1206	16.02%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	0.8550							
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.9880	0.1259	0.9880	0.1259	0.0787	12.74%	0.0511	16.03%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	8.850							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	8.546							
041.53	Vanadium, ICP-MS, Microwave (mg / kg (ppm))	1	1	0.2720							
042.00	Chloride, Titrimetric (%)	3	3	0.5663	0.0883	0.5663	0.0883	0.0781	15.60%	0.0367	4.36%
101.02	Choline Chloride, LC (mg / kg (ppm))	1	1	2,415							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	131.5							
102.02	Niacin, LC (mg / kg (ppm))	1	1	75.30							
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	20.90							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	2	2	28.50	0.7071						
104.03	Riboflavin, LC (mg / kg (ppm))	3	3	22.22	6.400	22.22	6.400	4.619	28.80%	1.370	10.03%
105.00	Thiamine, LC (mg / kg (ppm))	2	2	6.235	4.490						
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	7.315							
106.00	Vitamin A, Color (KU / kg)	1	1	24.15							
106.01	Vitamin A, UV (KU / kg)	1	1	25.90							
106.02	Vitamin A, LC (KU / kg)	13	13	28.19	16.69	25.48	3.778	1.310	14.83%	2.127	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	37.85							
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	1.450							
108.02	Vitamin D3, LC (KU / kg)	6	6	10.14	11.98	5.412	0.5442	0.2777	10.06%	0.4700	
109.02	Vitamin E, LC (IU / kg)	12	12	59.23	18.64	62.33	11.14	4.019	17.87%	3.460	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	60.40							
111.01	Vitamin C, Ascorbic Acid, LC (mkg/kg (ppm))	1	1	11.80							
112.01	Pyridoxine, LC (µg / g)	1	1	9.580							
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	11.45							
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.8070							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.5500							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	5.380							
120.00	Alanine, Post-col Ninhydrin Der (%)	20	20	1.111	0.1322	1.129	0.0369	0.0103	3.27%	0.0155	3.93%
120.02	Alanine, Post-col OPA Der (%)	1	1	1.150							
120.05	Alanine, Pre-col AQC Der (%)	6	5	1.102	0.0446	1.102	0.0446	0.0057	4.04%	0.0050	3.94%
121.00	Arginine, Post-col Ninhydrin Der (%)	21	20	1.255	0.1607	1.291	0.0432	0.0121	3.35%	0.0133	3.85%
121.02	Arginine, Post-col OPA Der (%)	1	1	1.296							

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121.05	Arginine, Pre-col AQC Der (%)	6	6	1.328	0.1206	1.328	0.1368	0.0698	10.30%	0.0302	3.83%
122.00	Aspartic, Post-col Ninhydrin Der (%)	21	19	1.866	0.0600	1.863	0.0554	0.0159	2.97%	0.0194	3.64%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.883							
122.05	Aspartic, Pre-col AQC Der (%)	6	5	1.838	0.0576	1.838	0.0576	0.0322	3.13%	0.0092	3.65%
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	21	21	0.3193	0.0522	0.3186	0.0264	0.0072	8.28%	0.0089	4.75%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.3245							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	5	4	0.3043	0.0271	0.3043	0.0271			0.0000	4.78%
125.00	Glutamic, Post-col Ninhydrin Der (%)	21	20	3.310	0.3779	3.373	0.1375	0.0384	4.08%	0.0274	3.33%
125.02	Glutamic, Post-col OPA Der (%)	1	1	3.403							
125.05	Glutamic, Pre-col AQC Der (%)	6	5	3.385	0.1390	3.385	0.1390	0.0777	4.10%	0.0106	3.33%
126.00	Glycine, Post-col Ninhydrin Der (%)	21	20	1.207	0.0453	1.200	0.0316	0.0088	2.63%	0.0125	3.89%
126.02	Glycine, Post-col OPA Der (%)	1	1	1.202							
126.05	Glycine, Pre-col AQC Der (%)	6	5	1.229	0.0371	1.229	0.0371	0.0145	3.02%	0.0046	3.88%
127.00	Histidine, Post-col Ninhydrin Der (%)	21	20	0.4918	0.0691	0.5046	0.0369	0.0103	7.32%	0.0100	4.43%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.4980							
127.05	Histidine, Pre-col AQC Der (%)	6	6	0.5090	0.0155	0.5090	0.0176	0.0090	3.46%	0.0107	4.43%
128.00	Isoleucine, Post-col Ninhydrin Der (%)	21	21	0.7326	0.0951	0.7498	0.0528	0.0144	7.04%	0.0104	4.18%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.7830							
128.05	Isoleucine, Pre-col AQC Der (%)	6	6	0.7898	0.0266	0.7923	0.0239	0.0122	3.02%	0.0208	4.14%
129.00	Leucine, Post-col Ninhydrin Der (%)	21	20	1.612	0.0579	1.604	0.0400	0.0112	2.50%	0.0126	3.73%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.603							
129.05	Leucine, Pre-col AQC Der (%)	6	6	1.589	0.0844	1.589	0.0958	0.0489	6.03%	0.0432	3.73%
130.00	L-Lysine, Post-col Ninhydrin Der (%)	23	22	1.008	0.1182	1.033	0.0453	0.0121	4.38%	0.0094	3.98%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	1.122							
130.05	L-Lysine, Pre-col AQC Der (%)	9	9	1.069	0.0891	1.055	0.0653	0.0272	6.18%	0.0528	3.97%
130.99	L-Lysine, Miscellaneous (%)	1	1	1.195							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	23	23	0.3064	0.0369	0.3134	0.0161	0.0042	5.13%	0.0089	4.76%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.3060							
131.05	Methionine, PAO Pre-col AQC Der (%)	7	6	0.3316	0.0680	0.3297	0.0727	0.0371	22.05%	0.0028	4.73%
131.99	Methionine, Miscellaneous (%)	3	3	0.3433	0.0351	0.3433	0.0351	0.0253	10.23%	0.0133	4.70%
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	21	20	0.8966	0.1079	0.9130	0.0410	0.0115	4.49%	0.0095	4.05%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.9105							
132.05	Phenylalanine, Pre-col AQC Der (%)	6	6	0.9188	0.0238	0.9188	0.0270	0.0138	2.94%	0.0170	4.05%
133.00	Proline, Post-col Ninhydrin Der (%)	21	20	1.290	0.1762	1.303	0.0729	0.0204	5.60%	0.0261	3.84%
133.05	Proline, Pre-col AQC Der (%)	6	6	1.361	0.0949	1.361	0.1076	0.0549	7.91%	0.0337	3.82%
134.00	Serine, Post-col Ninhydrin Der (%)	21	20	0.9200	0.1148	0.9334	0.0315	0.0088	3.37%	0.0111	4.04%
134.02	Serine, Post-col OPA Der (%)	1	1	0.7690							
134.05	Serine, Pre-col AQC Der (%)	6	6	0.9484	0.0567	0.9484	0.0643	0.0328	6.78%	0.0402	4.03%
135.00	Threonine, Post-col Ninhydrin Der (%)	21	21	0.7297	0.0820	0.7416	0.0305	0.0083	4.11%	0.0084	4.18%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.7290							

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135.05	Threonine, Pre-col AQC Der (%)	6	6	0.7481	0.0350	0.7481	0.0397	0.0202	5.30%	0.0245	4.18%
135.99	Threonine, Miscellaneous (%)	1	1	0.6950							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	7	0.2028	0.0622	0.2028	0.0705	0.0333	34.77%	0.0039	5.09%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	2	2	0.2378	0.0039						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2285							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	4	0.2255	0.0020	0.2255	0.0020	0.0012	0.86%	0.0013	5.00%
136.05	Tryptophan, Pre-col AQC Der (%)	2	2	0.4435	0.4193						
136.99	Tryptophan, Miscellaneous (%)	1	1	0.2250							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	16	0.5947	0.1157	0.6008	0.1176	0.0367	19.57%	0.0083	4.32%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.6400							
137.05	Tyrosine, Pre-col AQC Der (%)	5	5	0.6486	0.0999	0.6486	0.0999	0.0559	15.40%	0.0252	4.27%
138.00	Valine, Post-col Ninhydrin Der (%)	21	20	0.8883	0.1130	0.9045	0.0732	0.0205	8.10%	0.0116	4.06%
138.02	Valine, Post-col OPA Der (%)	1	1	0.9540							
138.05	Valine, Pre-col AQC Der (%)	6	6	0.9301	0.0619	0.9301	0.0702	0.0358	7.55%	0.0258	4.04%
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.1685	0.1082						
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0085							
150.00	Phytase, Colorimetric (Units / kg)	2	2	303.0	9.900						
160.99	Fructose, Miscellaneous (%)	3	3	0.3105	0.0183	0.3105	0.0183	0.0132	5.88%	0.0283	4.77%
162.99	Glucose, Miscellaneous (%)	2	2	0.2428	0.0322						
163.99	Lactose, Miscellaneous (%)	2		0.0000							
164.99	Maltose, Miscellaneous (%)	3	1								
165.99	Sucrose, Miscellaneous (%)	3	3	2.270	0.1394	2.270	0.1394	0.1006	6.14%	0.0667	3.54%
166.99	Raffinose, Miscellaneous (%)	1	1	0.4650							
167.99	Stachyose, Miscellaneous (%)	1	1	0.9600							
345.00	Amprolium, Colorimetric (mg/kg (ppm))	6	6	87.66	43.51	100.8	14.48	7.388	14.36%	3.790	7.99%
345.02	Amprolium, LC (UV or FL) (mg/kg (ppm))	7	7	102.4	6.996	102.3	7.798	3.684	7.62%	5.671	7.97%
348.01	Bacitracin, Plate, methanol extraction (mg/kg (ppm))	2	2	79.05	35.21						
348.06	Bacitracin, LC-MS/MS (mg/kg (ppm))	1	1	19.50							
351.00	Chlortetracycline, Plate (mg/kg (ppm))	1	1	5.235							
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	1	1	13.42							
351.05	Chlortetracycline, LC-MS/MS (mg/kg (ppm))	2	2	4.036	0.6428						
361.02	Lasalocid Sodium, LC (mg/kg (ppm))	2	2	2.465	0.0776						
361.03	Lasalocid Sodium, LC (UV or FL) (mg/kg (ppm))	3	3	2.206	0.3320	2.206	0.3320	0.2396	15.05%	0.0915	14.20%
361.04	Lasalocid Sodium, LC-MS (mg/kg (ppm))	1	1	2.615							
361.05	Lasalocid Sodium, LC-MS/MS (mg/kg (ppm))	4	4	2.446	1.008	2.446	1.008	0.6298	41.19%	0.5225	13.98%
365.02	Monensin, LC (mg/kg (ppm))	2	2	3.100	0.0000						
365.03	Monensin, LC-PCD (mg/kg (ppm))	2	2	3.035	0.0919						
365.04	Monensin, LC-MS (mg/kg (ppm))	2	2	3.038	0.0465						
365.05	Monensin, LC-MS/MS (mg/kg (ppm))	6	6	2.822	0.3661	2.844	0.3627	0.1851	12.75%	0.2146	13.67%

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388.00	Tylosin, Plate (mg/kg (ppm))	1	1	70.78							
388.03	Tylosin, LC (mg/kg (ppm))	3	3	101.6	30.64	101.6	30.64	22.11	30.15%	7.267	7.98%
388.05	Tylosin, LC-MS/MS (mg/kg (ppm))	2	2	95.68	9.157						
388.99	Tylosin, Miscellaneous (mg/kg (ppm))	1	1	53.54							
400.01	Water Activity, Aqualab chilled mirror (Units)	7	7	0.4960	0.0308	0.4957	0.0343	0.0162	6.92%	0.0040	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.4685	0.0262						
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	24.27							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	2	2	0.0619	0.0090						
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	2	2	0.7728	0.9938						
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	1	1	0.0550							
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.0817	0.0156	0.0817	0.0156	0.0097	19.05%	0.0073	22.00%
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	1	1	0.0500							
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	1	1	0.0400							
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	0.0400							
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	5	5	0.0405	0.0046	0.0405	0.0046	0.0026	11.47%	0.0030	22.00%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	1	1	2.833							
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	2	2	3.118	0.2432						
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	3	3	2.045	0.9432	2.045	0.9432	0.6807	46.13%	0.0353	14.36%
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	1.070							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	3	3	2.427	1.075	2.427	1.075	0.7756	44.28%	0.4011	14.00%
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	1	1	0.1475							
526.43	Lead, ICP, Microwave (mg / kg (ppm))	1	1	0.2020							
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.2043	0.0223						
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	5	4	0.1924	0.0070	0.1924	0.0070	0.0044	3.62%	0.0149	20.50%
529.99	Mercury, Miscellaneous (µg / kg (ppb))	2	2	1.086	0.2634						
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	1	1	3.456							
539.43	Nickel, ICP, Microwave (mg / kg (ppm))	1	1	2.040							
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	2.030							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	1	1	2.506							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3	2	0.0074	0.0073	0.0074	0.0073			0.0006	
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	2	2	0.0201	0.0069						
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.7532	0.0733						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	2	0.0241	0.0012	0.0241	0.0012			0.0003	
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	1	1	0.2063							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	1.051	0.0833						
726.02	Linoleic Acid (9c,12c-18:2), Direct Methylation by Acid-Alkali Hydrolysis & GC	1	1	1.505							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	1.683	0.1033	1.683	0.1033	0.0745	6.13%	0.0290	
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	3	3	0.1013	0.0106	0.1013	0.0106	0.0077	10.50%	0.0016	
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	1	1	0.0131							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.0159							

Test Material Code # 201832
Issue Date : 01/31/2019

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
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1		0.0000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	2		0.0000							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	1	0.0079							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.0050							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	2		0.0000							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	1	1	0.0568							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	2		0.0000							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	1		0.0050							
754.02	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Direct Methylation by Acid- <i>A</i>	1	1	0.0900							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	2	2	0.1050	0.0071						
756.01	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Direct Methylation by Alkali	1	1	1.515							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	2	2	1.723	0.1308						
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.115							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.160							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.745							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	4.235							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	3.904	0.2060						

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.

Animal Feed Scheme
Chicken Starter, Medicated
Test Material Code # 201832
Method Precision Report
Methods Reported: 92
Labs Reporting: 194
Issue Date : 01/31/2019

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 (%)	49	45	9.282	0.3194	0.2361	0.1011	0.2568	2.53%	1.09%	2.76%	2.540
001.99	Loss on Drying, Miscellaneous (%)	23	23	9.034	0.6709	0.6673	0.0973	0.6744	7.39%	1.08%	7.46%	6.930
002.01	Protein, Crude, Auto Kjel-Foss (%)	16	15	20.45	0.2902	0.1768	0.1343	0.2221	0.86%	0.66%	1.08%	1.653
002.05	Protein, Crude, Copper, Boric Acid (%)	33	30	20.40	0.4037	0.2700	0.0749	0.2802	1.32%	0.37%	1.37%	3.741
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	123	114	20.62	0.8468	0.2976	0.1616	0.3386	1.44%	0.78%	1.64%	2.096
002.11	Protein, Crude, NIR (%)	8	8	20.65	1.006	1.005	0.0825	1.008	4.87%	0.40%	4.88%	12.22
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	12	12	3.794	0.2025	0.1965	0.0692	0.2084	5.18%	1.82%	5.49%	3.012
003.06	Fat, Crude, Pet Ether (%)	17	15	3.837	0.2750	0.1690	0.0716	0.1835	4.36%	1.85%	4.73%	2.563
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	19	19	3.793	0.1535	0.1351	0.1030	0.1699	3.56%	2.71%	4.48%	1.650
003.10	Fat, Crude, Randall, Pet Ether (%)	29	25	3.693	0.2454	0.1394	0.0749	0.1583	3.78%	2.03%	4.29%	2.114
003.11	Fat, Crude, NIR (%)	9	9	3.914	0.2602	0.2565	0.0614	0.2638	6.55%	1.57%	6.74%	4.298
003.13	Fat, Crude, Randall, Hexane Ext. (%)	9	8	3.742	0.1136	0.1096	0.0418	0.1173	2.93%	1.12%	3.14%	2.805
003.14	Fat, Crude, Ankom (%)	48	43	3.601	0.3507	0.1910	0.0847	0.2089	5.19%	2.30%	5.68%	2.466
004.00	Fiber, Crude, Asbestos Free (%)	17	15	3.849	0.4044	0.2371	0.1198	0.2656	6.29%	3.18%	7.05%	2.217
004.06	Fiber, Crude, Fibertec (%)	22	20	3.762	0.3125	0.2570	0.1075	0.2786	6.76%	2.83%	7.32%	2.592
004.07	Fiber, Crude, ANKOM (%)	66	60	3.620	0.5640	0.4075	0.1474	0.4333	11.48%	4.15%	12.21%	2.940
005.00	Ash, 2h @ 600°C (%)	89	82	6.815	0.1802	0.1624	0.0614	0.1736	2.38%	0.90%	2.55%	2.829
005.05	Ash, 3h @ 550°C (%)	33	30	7.039	0.1370	0.0961	0.0723	0.1203	1.36%	1.02%	1.70%	1.664
005.99	Ash, Miscellaneous (%)	10	10	6.840	0.5538	0.5520	0.0632	0.5556	8.07%	0.92%	8.12%	8.792
008.02	Fiber, Acid Detergent, Crucible (%)	13	13	4.906	0.5710	0.5555	0.1871	0.5861	11.32%	3.81%	11.95%	3.133
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	40	38	5.251	0.5122	0.4906	0.1479	0.5124	9.30%	2.81%	9.72%	3.464
009.07	Fiber, Neutral Detergent, AOC -ENZ Pretreat (%)	12	11	13.48	1.768	1.225	0.4042	1.290	9.35%	3.09%	9.84%	3.190
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	39	36	13.35	1.912	1.137	0.2955	1.175	8.66%	2.25%	8.95%	3.976
010.99	Moisture, Miscellaneous (%)	19	15	8.773	2.038	0.2904	0.1145	0.3121	3.12%	1.23%	3.35%	2.727
011.01	Loss on Drying, 135°C 2hr (%)	62	57	9.853	0.3955	0.3709	0.0636	0.3763	3.76%	0.64%	3.81%	5.915
012.00	Starch, Polarimetric (Ewers) (%)	16	15	39.90	0.9440	0.7261	0.2690	0.7744	1.81%	0.67%	1.93%	2.878
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	10	37.78	3.358	2.664	0.7666	2.772	6.93%	2.00%	7.21%	3.616
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	19	17	4.503	0.4652	0.4583	0.0966	0.4684	10.24%	2.16%	10.47%	4.847
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	17	4.984	0.3055	0.2938	0.1186	0.3168	5.89%	2.38%	6.36%	2.672
019.00	Calcium, Ox-Mn04 Vol. (%)	10	10	1.511	0.0565	0.0551	0.0175	0.0578	3.65%	1.16%	3.83%	3.302
019.08	Calcium, EDTA (%)	14	12	1.462	0.1387	0.0770	0.0318	0.0833	5.15%	2.13%	5.58%	2.622
019.31	Calcium, AAS, Dry ash (%)	18	15	1.506	0.0810	0.0472	0.0207	0.0515	3.09%	1.36%	3.38%	2.489
019.41	Calcium, ICP, Dry ash (%)	27	25	1.497	0.0695	0.0679	0.0149	0.0696	4.55%	1.00%	4.66%	4.655
019.42	Calcium, ICP, Open vessel (%)	21	18	1.544	0.1099	0.0853	0.0213	0.0880	5.59%	1.40%	5.76%	4.121
019.43	Calcium, ICP, Microwave (%)	26	24	1.506	0.1198	0.0985	0.0187	0.1002	6.48%	1.23%	6.59%	5.351

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
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	9	8	24.61	1.989	1.786	0.4648	1.846	7.16%	1.86%	7.40%	3.971
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	22	21	23.42	3.468	2.352	0.9500	2.537	10.28%	4.15%	11.09%	2.671
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	19	18	25.43	2.277	1.277	1.709	2.133	5.09%	6.81%	8.50%	1.248
022.43	Copper, ICP, Microwave (mg / kg (ppm))	23	21	23.98	2.211	2.100	1.065	2.354	8.72%	4.43%	9.78%	2.211
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	12	12	245.9	17.36	17.00	4.924	17.70	6.91%	2.00%	7.20%	3.595
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	21	19	241.1	16.12	12.95	6.282	14.39	5.40%	2.62%	6.00%	2.291
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	16	16	223.2	28.22	27.84	6.467	28.58	12.48%	2.90%	12.81%	4.420
025.43	Iron, ICP, Microwave (mg / kg (ppm))	20	19	238.2	21.15	20.87	4.809	21.42	8.76%	2.02%	8.99%	4.455
027.31	Magnesium, AAS, Dry ash (%)	10	9	0.1910	0.0085	0.0066	0.0015	0.0068	3.51%	0.77%	3.59%	4.638
027.41	Magnesium, ICP, Dry ash (%)	23	21	0.1907	0.0112	0.0090	0.0035	0.0097	4.79%	1.85%	5.13%	2.775
027.42	Magnesium, ICP, Open vessel (%)	21	21	0.1932	0.0081	0.0070	0.0058	0.0091	3.64%	2.98%	4.71%	1.580
027.43	Magnesium, ICP, Microwave (%)	24	20	0.1900	0.0152	0.0135	0.0013	0.0136	7.14%	0.70%	7.18%	10.33
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	10	10	111.3	4.611	4.503	1.403	4.717	4.05%	1.26%	4.24%	3.361
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	19	110.6	10.70	8.150	3.254	8.775	7.24%	2.89%	7.80%	2.697
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	19	18	116.9	8.267	8.124	3.168	8.720	6.97%	2.72%	7.48%	2.752
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	22	20	115.1	10.80	9.306	2.849	9.733	8.16%	2.50%	8.54%	3.417
031.01	Phosphorus, Photometric (%)	42	36	0.7303	0.0355	0.0235	0.0093	0.0253	3.22%	1.28%	3.46%	2.709
031.41	Phosphorus, ICP, Dry ash (%)	26	24	0.7414	0.0342	0.0331	0.0095	0.0344	4.47%	1.28%	4.65%	3.624
031.42	Phosphorus, ICP, Open vessel (%)	19	19	0.7378	0.0434	0.0417	0.0170	0.0450	5.65%	2.30%	6.10%	2.650
031.43	Phosphorus, ICP, Microwave (%)	24	21	0.7459	0.0378	0.0276	0.0078	0.0287	3.68%	1.04%	3.83%	3.693
032.31	Potassium, AAS, Dry ash (%)	10	8	1.009	0.2878	0.0792	0.0096	0.0798	8.65%	1.05%	8.71%	8.275
032.41	Potassium, ICP, Dry ash (%)	23	22	0.8782	0.0486	0.0391	0.0224	0.0450	4.42%	2.53%	5.10%	2.013
032.42	Potassium, ICP, Open vessel (%)	19	17	0.9091	0.0424	0.0348	0.0185	0.0394	3.81%	2.02%	4.31%	2.130
032.43	Potassium, ICP, Microwave (%)	25	24	0.8875	0.0396	0.0391	0.0092	0.0401	4.40%	1.03%	4.52%	4.371
033.00	Salt as chloride, Sol Cl (%)	24	21	0.7404	0.0843	0.0641	0.0160	0.0661	8.84%	2.21%	9.11%	4.118
033.01	Salt as chloride, Poten Cl (%)	30	28	0.7821	0.0249	0.0197	0.0125	0.0233	2.53%	1.61%	2.99%	1.863
033.99	Salt, Miscellaneous (%)	9	8	1.191	1.309	0.0875	0.0367	0.0949	11.58%	4.86%	12.56%	2.585
035.31	Sodium, AAS, Dry ash (%)	11	10	0.2963	0.0263	0.0261	0.0048	0.0265	8.81%	1.62%	8.96%	5.542
035.41	Sodium, ICP, Dry ash (%)	22	22	0.2781	0.0173	0.0166	0.0071	0.0180	5.96%	2.54%	6.48%	2.555
035.42	Sodium, ICP, Open vessel (%)	17	15	0.2997	0.0526	0.0347	0.0074	0.0355	11.97%	2.55%	12.24%	4.808
035.43	Sodium, ICP, Microwave (%)	20	17	0.2855	0.0327	0.0183	0.0051	0.0190	6.47%	1.79%	6.71%	3.743
036.42	Sulfur, ICP, Open vessel (%)	20	19	0.2512	0.0239	0.0236	0.0055	0.0242	9.38%	2.18%	9.63%	4.428
036.43	Sulfur, ICP, Microwave (%)	11	11	0.2521	0.0114	0.0102	0.0070	0.0124	4.06%	2.77%	4.91%	1.775
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	10	10	135.7	7.290	7.112	2.266	7.464	5.24%	1.67%	5.50%	3.294
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	21	135.9	11.08	10.96	3.805	11.60	8.05%	2.79%	8.52%	3.050
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	18	18	138.9	8.237	7.280	5.449	9.094	5.24%	3.92%	6.55%	1.669
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	23	21	138.4	13.06	13.14	2.888	13.46	9.48%	2.08%	9.70%	4.660
106.02	Vitamin A, LC (KU / kg)	13	12	28.19	16.69	6.038	1.703	6.273	25.31%	7.14%	26.29%	3.685
109.02	Vitamin E, LC (IU / kg)	12	11	59.23	18.64	8.654	3.587	9.368	13.52%	5.60%	14.64%	2.612
120.00	Alanine, Post-col Ninhydrin Der (%)	20	17	1.111	0.1322	0.0436	0.0118	0.0452	3.84%	1.04%	3.98%	3.842
121.00	Arginine, Post-col Ninhydrin Der (%)	21	19	1.255	0.1607	0.0929	0.0126	0.0938	7.23%	0.98%	7.30%	7.449
122.00	Aspartic, Post-col Ninhydrin Der (%)	21	18	1.866	0.0600	0.0463	0.0152	0.0487	2.49%	0.82%	2.62%	3.212
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	21	19	0.3193	0.0522	0.0369	0.0074	0.0377	11.25%	2.26%	11.47%	5.080

Test Material Code # 201832

Issue Date : 01/31/2019

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
125.00	Glutamic, Post-col Ninhydrin Der (%)	21	19	3.310	0.3779	0.1631	0.0272	0.1654	4.82%	0.80%	4.88%	6.073
126.00	Glycine, Post-col Ninhydrin Der (%)	21	18	1.207	0.0453	0.0374	0.0106	0.0389	3.11%	0.88%	3.23%	3.686
127.00	Histidine, Post-col Ninhydrin Der (%)	21	19	0.4918	0.0691	0.0427	0.0094	0.0438	8.48%	1.87%	8.68%	4.650
128.00	Isoleucine, Post-col Ninhydrin Der (%)	21	20	0.7326	0.0951	0.0514	0.0087	0.0521	6.85%	1.15%	6.95%	6.018
129.00	Leucine, Post-col Ninhydrin Der (%)	21	19	1.612	0.0579	0.0353	0.0106	0.0369	2.20%	0.66%	2.30%	3.469
130.00	L-Lysine, Post-col Ninhydrin Der (%)	23	21	1.008	0.1182	0.0544	0.0085	0.0551	5.28%	0.82%	5.35%	6.514
130.05	L-Lysine, Pre-col AQC Der (%)	9	8	1.069	0.0891	0.0381	0.0397	0.0551	3.66%	3.81%	5.28%	1.386
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	23	21	0.3064	0.0369	0.0164	0.0074	0.0180	5.25%	2.38%	5.76%	2.423
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	21	19	0.8966	0.1079	0.0410	0.0092	0.0420	4.46%	1.00%	4.57%	4.572
133.00	Proline, Post-col Ninhydrin Der (%)	21	19	1.290	0.1762	0.0960	0.0233	0.0988	7.26%	1.76%	7.47%	4.240
134.00	Serine, Post-col Ninhydrin Der (%)	21	19	0.9200	0.1148	0.0534	0.0095	0.0543	5.67%	1.00%	5.76%	5.739
135.00	Threonine, Post-col Ninhydrin Der (%)	21	19	0.7297	0.0820	0.0242	0.0071	0.0253	3.27%	0.96%	3.40%	3.552
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	16	0.5947	0.1157	0.1156	0.0073	0.1159	19.44%	1.23%	19.48%	15.84
138.00	Valine, Post-col Ninhydrin Der (%)	21	19	0.8883	0.1130	0.0621	0.0102	0.0629	6.82%	1.13%	6.92%	6.138

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