



Animal Feed Scheme
Dry Dog Food
Test Material Code # 201923

Method Summary Report
(Precision Report Follows)

Labs Reporting: 217
Methods Reported: 368
Issue Date : 04/30/2019

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 (%)	2	2	0.0600	0.0566						
001.00	Loss on Drying, Vac 95°C 5 hr (%)	4	4	7.239	0.1021	7.239	0.1021	0.0510	1.41%	0.0340	2.97%
001.03	Loss on Drying, Low temp. methods (%)	5	5	7.447	0.1050	7.447	0.1050	0.0469	1.41%	0.0660	2.96%
001.05	Loss on Drying, LECO (%)	2	2	7.223	0.1379						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	59	58	7.344	0.3800	7.326	0.2530	0.0415	3.45%	0.1120	2.96%
001.99	Loss on Drying, Miscellaneous (%)	20	18	7.223	0.3319	7.270	0.2668	0.0786	3.67%	0.0760	2.97%
002.00	Protein, Crude, Crude (%)	1	1	24.49							
002.01	Protein, Crude, Auto Kjell-Foss (%)	18	17	24.17	0.4292	24.17	0.3519	0.1067	1.46%	0.1309	2.03%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	4	4	24.26	0.0819	24.26	0.0819	0.0409	0.34%	0.0898	2.03%
002.03	Protein, Crude, Hach Method (%)	1	1	24.31							
002.04	Protein, Crude, Copper Catalyst (%)	7	6	24.34	0.4656	24.37	0.4617	0.2356	1.89%	0.0167	2.03%
002.05	Protein, Crude, Copper, Boric Acid (%)	35	34	24.11	0.3393	24.15	0.2265	0.0486	0.94%	0.1224	2.03%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	147	145	24.52	0.3828	24.48	0.2509	0.0260	1.02%	0.1633	2.02%
002.08	Protein, Crude, Cu/Ti (%)	1	1	24.15							
002.11	Protein, Crude, NIR (%)	5	5	23.29	1.299	23.29	1.299	0.5810	5.58%	0.0356	2.07%
002.99	Protein, Crude, Miscellaneous (%)	2	2	24.06	0.8379						
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	11	11	6.211	1.022	5.985	0.3950	0.1489	6.60%	0.1183	3.06%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	5.865							
003.06	Fat, Crude, Pet Ether (%)	15	14	6.513	1.289	6.110	0.5298	0.1770	8.67%	0.1238	3.05%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	12	12	5.829	0.2053	5.850	0.1211	0.0437	2.07%	0.0908	3.07%
003.10	Fat, Crude, Randall, Pet Ether (%)	32	31	5.790	0.2508	5.746	0.1635	0.0367	2.85%	0.1008	3.07%
003.11	Fat, Crude, NIR (%)	6	6	8.611	1.041	8.611	1.180	0.6023	13.71%	0.1025	2.89%
003.12	Fat, Crude, Hexane Ext (%)	2	2	5.890	0.1768						
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	8	6.079	0.9979	5.796	0.2930	0.1295	5.06%	0.2316	3.07%
003.14	Fat, Crude, Ankom (%)	42	41	5.797	0.2826	5.842	0.1600	0.0312	2.74%	0.1230	3.07%
003.99	Fat, Crude, Miscellaneous (%)	3	3	7.945	1.205	7.945	1.205	0.6956	15.17%	0.1567	2.93%
004.00	Fiber, Crude, Asbestos Free (%)	18	18	3.659	0.7026	3.521	0.4037	0.1189	11.47%	0.1756	3.31%
004.01	Fiber, Crude, Sing Filt (%)	1	1	2.600							
004.03	Fiber, Crude, Fritted Glass (%)	7	7	3.474	1.012	3.413	1.004	0.4744	29.42%	0.1214	3.33%
004.06	Fiber, Crude, Fibertec (%)	28	27	3.962	0.8506	3.800	0.4490	0.1080	11.81%	0.0839	3.27%

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004.07	Fiber, Crude, ANKOM (%)	73	73	3.456	0.5165	3.428	0.4208	0.0616	12.28%	0.1966	3.32%
004.11	Fiber, Crude, NIR (%)	4	4	3.600	1.277	3.600	1.277	0.6385	35.47%	0.0295	3.30%
004.99	Fiber, Crude, Miscellaneous (%)	3	3	3.457	0.6225	3.457	0.6225	0.3594	18.01%	0.1200	3.32%
005.00	Ash, 2h @ 600°C (%)	109	108	7.643	0.3582	7.618	0.1728	0.0208	2.27%	0.0617	2.95%
005.02	Ash, LECO (%)	1	1	7.745							
005.03	Ash, Microwave furnace (%)	1	1	7.810							
005.05	Ash, 3h @ 550°C (%)	38	37	7.773	0.1318	7.780	0.1108	0.0228	1.42%	0.0742	2.94%
005.11	Ash, NIR (%)	3	3	7.135	0.4504	7.135	0.4504	0.2600	6.31%	0.1473	2.98%
005.99	Ash, Miscellaneous (%)	10	10	7.596	0.3449	7.635	0.2891	0.1143	3.79%	0.1991	2.95%
006.00	Total Sugars, As sucrose (%)	3	3	3.115	1.325	3.115	1.325	0.9366	42.52%	0.0730	3.37%
006.99	Total Sugars, Miscellaneous (%)	1	1	3.600							
008.02	Fiber, Acid Detergent, Crucible (%)	16	15	5.889	1.246	5.751	1.059	0.3418	18.41%	0.1738	3.07%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	7.390							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	41	5.621	0.9582	5.586	0.9988	0.1950	17.88%	0.2345	3.09%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	4	4	5.295	0.6072	5.295	0.6072	0.3036	11.47%	0.1750	3.11%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	2	2	25.50	12.68						
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	15	14	18.14	1.997	18.03	1.981	0.6618	10.99%	0.4658	2.36%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	43	17.44	1.942	17.36	1.986	0.3786	11.44%	0.3897	2.40%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	2	2	16.02	0.5021						
010.03	Moisture, Karl-Fischer (%)	2	2	7.270	0.0849						
010.11	Moisture, NIR (%)	3	3	7.402	0.9160	7.402	0.9160	0.5288	12.38%	0.1122	2.96%
010.99	Moisture, Miscellaneous (%)	19	17	7.607	0.7770	7.494	0.4345	0.1317	5.80%	0.1089	2.95%
011.01	Loss on Drying, 135°C 2hr (%)	71	70	7.823	0.2621	7.832	0.2613	0.0390	3.34%	0.0849	2.93%
011.02	Loss on Drying, 130°C for 2 hours (%)	4	3	7.883	0.0161	7.883	0.0161	0.0093	0.20%	0.2133	2.93%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	8.060	0.6505						
012.00	Starch, Polarimetric (Ewers) (%)	19	19	32.94	1.165	33.10	0.8122	0.2329	2.45%	0.1990	1.74%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	11	31.70	3.122	31.94	1.410	0.5313	4.41%	0.6682	1.77%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	5	3	32.95	0.4739	32.95	0.4739	0.2736	1.44%	0.2667	1.74%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	4	4	32.23	0.9894	32.23	0.9894	0.4947	3.07%	0.2575	1.76%
012.11	Starch, NIR (%)	2	2	32.19	3.869						
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	28	27	9.057	0.5097	9.094	0.4733	0.1139	5.20%	0.1561	2.87%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	30	29	9.297	0.7271	9.299	0.6701	0.1555	7.21%	0.2118	2.86%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	12	12	8.157	0.7742	8.244	0.6457	0.2330	7.83%	0.1323	2.91%
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	2	2	8.790	1.315						
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	14	14	9.034	0.6592	9.010	0.6923	0.2313	7.68%	0.2111	2.87%
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	5	4	62.57	11.54	62.57	11.54	5.768	18.44%	0.6310	8.58%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	57.15							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	6	6	66.54	11.30	66.03	11.61	5.925	17.59%	2.307	8.51%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	32.10							
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	5	4	5.958	0.7296	5.958	0.7296	0.3648	12.25%	0.1906	12.23%

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017.42	Boron, ICP, Open vessel (mg / kg (ppm))	6	6	5.220	0.5237	5.192	0.5290	0.2700	10.19%	0.3612	12.48%
017.43	Boron, ICP, Microwave (mg / kg (ppm))	6	6	5.903	1.109	5.741	0.8567	0.4372	14.92%	0.1367	12.30%
019.00	Calcium, Ox-Mn04 Vol. (%)	12	12	1.668	0.0939	1.677	0.0821	0.0296	4.90%	0.0325	3.70%
019.02	Calcium, Hach Method (%)	1	1	1.370							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	1.794							
019.08	Calcium, EDTA (%)	11	11	1.616	0.2145	1.674	0.1056	0.0398	6.31%	0.0355	3.70%
019.09	Calcium, Ion-selective electrode (%)	1	1	1.560							
019.31	Calcium, AAS, Dry ash (%)	25	24	1.676	0.0872	1.675	0.0977	0.0249	5.83%	0.0213	3.70%
019.32	Calcium, AAS, Open vessel (%)	2	2	1.518	0.1379						
019.35	Calcium, AAS, Open vessel (%)	1	1	1.700							
019.41	Calcium, ICP, Dry ash (%)	32	32	1.665	0.0672	1.667	0.0654	0.0144	3.92%	0.0348	3.70%
019.42	Calcium, ICP, Open vessel (%)	23	23	1.703	0.1187	1.709	0.0927	0.0242	5.42%	0.0576	3.69%
019.43	Calcium, ICP, Microwave (%)	34	33	1.701	0.0862	1.695	0.0793	0.0172	4.68%	0.0323	3.69%
019.44	Calcium, ICP, Dry ash (%)	8	8	1.571	0.2146	1.631	0.0658	0.0291	4.04%	0.0401	3.72%
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	1.625							
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	1.684	0.0565	1.684	0.0565	0.0326	3.35%	0.0996	3.70%
019.53	Calcium, ICP-MS, Microwave (%)	2	2	1.675	0.0354						
019.99	Calcium, Miscellaneous (%)	5	5	1.577	0.2566	1.577	0.2566	0.1147	16.27%	0.0380	3.73%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	1	1	1.200							
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	2	2	1.098	0.1878						
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	3	1								
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	5	5	1.096	0.2780	1.096	0.2780	0.1243	25.36%	0.1592	15.78%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.3525	0.1591						
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	1	1	0.3144							
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	10	8	14.85	3.146	15.11	2.940	1.299	19.45%	0.4675	10.63%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	1	1	0.0350							
022.33	Copper, AAS, Microwave (mg / kg (ppm))	2	2	15.92	1.675						
022.34	Copper, AAS, Graphite furnace (mg / kg (ppm))	1	1	10.36							
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	28	27	16.96	3.588	16.44	2.649	0.6372	16.12%	0.7298	10.50%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	21	21	16.88	1.817	16.65	1.219	0.3326	7.32%	0.7058	10.48%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	25	24	16.45	1.610	16.42	1.312	0.3347	7.99%	0.7563	10.50%
022.44	Copper, ICP, Dry ash (mg / kg (ppm))	2	2	16.02	3.525						
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	16.28	0.3182						
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	3	3	13.83	1.955	13.83	1.955	1.128	14.14%	1.311	10.77%
022.99	Copper, Miscellaneous (mg / kg (ppm))	4	4	16.13	0.4787	16.13	0.4787	0.2394	2.97%	0.7300	10.53%
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	16	15	277.4	79.33	291.2	42.82	13.82	14.70%	7.829	6.81%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	0.3050							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	29	29	294.2	25.88	294.0	24.86	5.769	8.46%	8.288	6.80%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	18	17	277.3	50.70	287.4	30.29	9.184	10.54%	11.42	6.82%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	25	24	309.6	21.55	308.5	21.87	5.579	7.09%	13.49	6.75%

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025.51	Iron, ICP-MS, Dry ash (mg / kg (ppm))	1	1	328.9							
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	1	1	240.7							
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	1	1	320.5							
025.99	Iron, Miscellaneous (mg / kg (ppm))	3	3	326.6	26.28	326.6	26.28	18.58	8.05%	23.70	6.69%
027.31	Magnesium, AAS, Dry ash (%)	14	13	0.2102	0.0145	0.2120	0.0100	0.0035	4.72%	0.0034	5.05%
027.32	Magnesium, AAS, Open vessel (%)	2	2	0.2050	0.0212						
027.33	Magnesium, AAS, Microwave (%)	1	1	0.2005							
027.41	Magnesium, ICP, Dry ash (%)	29	28	0.2101	0.0117	0.2109	0.0112	0.0027	5.32%	0.0050	5.06%
027.42	Magnesium, ICP, Open vessel (%)	21	21	0.2165	0.0154	0.2153	0.0125	0.0034	5.78%	0.0075	5.04%
027.43	Magnesium, ICP, Microwave (%)	31	30	0.2120	0.0139	0.2111	0.0132	0.0030	6.27%	0.0070	5.05%
027.44	Magnesium, ICP, Dry ash (%)	8	8	0.1904	0.0556	0.2081	0.0089	0.0039	4.29%	0.0038	5.07%
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.2002	0.0128	0.2002	0.0128	0.0074	6.40%	0.0104	5.10%
027.53	Magnesium, ICP-MS, Microwave (%)	2	2	0.2158	0.0131						
027.99	Magnesium, Miscellaneous (%)	4	3	0.1867	0.0404	0.1867	0.0404			0.0000	5.15%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	12	12	53.24	5.636	53.25	6.352	2.292	11.93%	1.403	8.79%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	2	2	5.166	7.143						
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	1	1	54.58							
028.34	Manganese, AAS, Dry ash (mg / kg (ppm))	1	1	34.92							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	26	26	55.94	3.318	56.04	3.288	0.8060	5.87%	1.061	8.73%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	20	19	58.97	6.578	58.40	4.280	1.227	7.33%	1.161	8.67%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	25	25	55.50	3.981	55.70	3.926	0.9814	7.05%	1.359	8.74%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	3	3	50.77	3.224	50.77	3.224	1.861	6.35%	1.278	8.86%
028.51	Manganese, ICP-MS, Dry ash (mg / kg (ppm))	1	1	45.92							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	2	2	57.73	0.3288						
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	3	3	56.75	1.936	56.75	1.936	1.118	3.41%	1.277	8.71%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	4	4	57.88	2.857	57.88	2.857	1.428	4.93%	2.228	8.68%
031.00	Phosphorus, Vol (%)	1	1	1.095							
031.01	Phosphorus, Photometric (%)	48	47	1.060	0.0688	1.070	0.0320	0.0058	2.99%	0.0145	3.96%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	1	1	1.105							
031.03	Phosphorus, Autoanalyzer (%)	3	3	1.086	0.0236	1.086	0.0236	0.0167	2.17%	0.0106	3.95%
031.41	Phosphorus, ICP, Dry ash (%)	30	29	1.073	0.0430	1.073	0.0436	0.0101	4.06%	0.0155	3.96%
031.42	Phosphorus, ICP, Open vessel (%)	22	21	1.099	0.0461	1.100	0.0472	0.0129	4.29%	0.0295	3.94%
031.43	Phosphorus, ICP, Microwave (%)	33	32	1.119	0.0534	1.118	0.0523	0.0116	4.68%	0.0255	3.93%
031.44	Phosphorus, ICP, Dry ash (%)	4	4	1.030	0.0414	1.030	0.0414	0.0207	4.02%	0.0250	3.98%
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	1.035	0.0776						
031.53	Phosphorus, ICP-MS, Microwave (%)	2	2	1.090	0.0141						
031.99	Phosphorus, Miscellaneous (%)	5	4	1.033	0.0272	1.033	0.0272	0.0136	2.64%	0.0350	3.98%
032.08	Potassium, Ion-selective electrode (%)	1	1	0.9930							
032.31	Potassium, AAS, Dry ash (%)	11	11	0.7909	0.0703	0.8025	0.0464	0.0175	5.78%	0.0126	4.13%
032.32	Potassium, AAS, Open vessel (%)	4	4	0.7847	0.1032	0.7847	0.1032	0.0516	13.15%	0.0207	4.15%

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032.41	Potassium, ICP, Dry ash (%)	29	29	0.8089	0.0397	0.8085	0.0444	0.0103	5.49%	0.0172	4.13%
032.42	Potassium, ICP, Open vessel (%)	21	21	0.8409	0.0504	0.8395	0.0539	0.0147	6.42%	0.0218	4.11%
032.43	Potassium, ICP, Microwave (%)	30	29	0.8244	0.0430	0.8229	0.0426	0.0099	5.18%	0.0189	4.12%
032.44	Potassium, ICP, Dry ash (%)	8	8	0.7732	0.0908	0.7940	0.0447	0.0198	5.63%	0.0192	4.14%
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	0.7588	0.1155						
032.53	Potassium, ICP-MS, Microwave (%)	2	2	0.8898	0.0067						
032.99	Potassium, Miscellaneous (%)	5	4	0.8475	0.0320	0.8475	0.0320	0.0160	3.78%	0.0325	4.10%
033.00	Salt as chloride, Sol Cl (%)	21	20	0.7248	0.1045	0.7297	0.0926	0.0259	12.69%	0.0219	4.19%
033.01	Salt as chloride, Poten Cl (%)	24	23	0.7984	0.0417	0.7929	0.0294	0.0077	3.71%	0.0080	4.14%
033.03	Salt as chloride, Quantab (%)	3	3	0.8383	0.2350	0.8383	0.2350	0.1357	28.03%	0.0700	4.11%
033.05	Salt as chloride, Ion Sel Electrode (%)	4	4	0.7675	0.0779	0.7675	0.0779	0.0390	10.16%	0.0100	4.16%
033.99	Salt, Miscellaneous (%)	9	8	0.7868	0.0758	0.7868	0.0859	0.0380	10.92%	0.0195	4.15%
034.01	Selenium, Fluor (mg / kg (ppm))	1	1	0.4535							
034.04	Selenium, AA, Hydride (mg / kg (ppm))	3	3	0.4170	0.0373	0.4170	0.0373	0.0263	8.93%	0.0107	18.25%
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	2	2	0.9388	0.7089						
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	4	3	0.5435	0.2331	0.5435	0.2331	0.1346	42.90%	0.0497	17.53%
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	5	5	0.4724	0.0640	0.4724	0.0640	0.0286	13.55%	0.0496	17.91%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	8	8	0.5934	0.4212	0.4793	0.1453	0.0642	30.32%	0.0176	17.87%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	1.610							
035.01	Sodium, Ion-selective electrode (%)	3	3	0.3230	0.0283	0.3230	0.0283	0.0163	8.76%	0.0013	4.74%
035.05	Sodium, Flame Emission (%)	2	2	0.3600	0.0849						
035.31	Sodium, AAS, Dry ash (%)	19	18	0.3536	0.0317	0.3512	0.0226	0.0066	6.42%	0.0099	4.68%
035.32	Sodium, AAS, Open vessel (%)	3	3	0.3150	0.0577	0.3150	0.0577	0.0408	18.30%	0.0033	4.76%
035.41	Sodium, ICP, Dry ash (%)	36	34	0.3435	0.0133	0.3437	0.0142	0.0030	4.12%	0.0059	4.70%
035.42	Sodium, ICP, Open vessel (%)	18	18	0.3470	0.0183	0.3462	0.0181	0.0053	5.23%	0.0077	4.69%
035.43	Sodium, ICP, Microwave (%)	29	29	0.3474	0.0251	0.3446	0.0192	0.0045	5.58%	0.0096	4.70%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.3355							
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.3461	0.0359						
035.53	Sodium, ICP-MS, Microwave (%)	2	2	0.3363	0.0124						
035.99	Sodium, Miscellaneous (%)	4	3	0.3453	0.0177	0.3453	0.0177	0.0102	5.13%	0.0079	4.69%
036.04	Sulfur, LECO (%)	2	2	0.2495	0.0219						
036.42	Sulfur, ICP, Open vessel (%)	22	21	0.2488	0.0169	0.2479	0.0170	0.0046	6.86%	0.0063	4.93%
036.43	Sulfur, ICP, Microwave (%)	13	12	0.2546	0.0147	0.2546	0.0166	0.0060	6.53%	0.0069	4.91%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.2337	0.0096						
036.99	Sulfur, Miscellaneous (%)	2	2	0.2520	0.0029						
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	14	14	172.2	12.31	171.2	11.20	3.743	6.55%	3.846	7.38%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	2	2	57.73	81.55						
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	4	3	208.9	75.86	208.9	75.86	53.64	36.32%	2.163	7.16%
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	27	26	171.0	14.78	171.2	13.22	3.242	7.72%	4.087	7.38%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	20	19	160.8	41.22	169.6	10.10	2.897	5.96%	3.691	7.39%

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037.43	Zinc, ICP, Microwave (mg / kg (ppm))	28	27	173.0	11.87	172.8	11.75	2.827	6.80%	5.729	7.37%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	3	3	157.5	7.967	157.5	7.967	4.600	5.06%	4.058	7.47%
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	2	2	153.4	21.36						
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	3	3	173.1	3.964	173.1	3.964	2.289	2.29%	2.697	7.36%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	5	5	164.8	16.28	164.8	16.28	7.280	9.88%	3.815	7.42%
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	3	3	1.946	0.0933	1.946	0.0933	0.0539	4.79%	0.1161	14.47%
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	5	4	1.766	0.4380	1.766	0.4380	0.2190	24.80%	0.4125	14.68%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	7	7	2.086	0.4265	2.070	0.4480	0.2117	21.64%	0.1613	14.34%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	2	2	1.943	0.1096						
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	2	2	2.225	0.1345						
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	9.195							
040.43	Barium, ICP, Microwave (mg / kg (ppm))	1	1	8.350							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	8.644							
042.00	Chloride, Titrimetric (%)	2	2	0.4785	0.0021						
101.02	Choline Chloride, LC (mg / kg (ppm))	3	3	2,010	691.8	2,010	691.8	399.4	34.42%	69.67	5.09%
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	86.60							
102.02	Niacin, LC (mg / kg (ppm))	4	4	31.72	10.44	31.72	10.44	5.219	32.91%	1.955	9.51%
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	16.60							
103.02	Pantothenic Acid, LC (mg / kg (ppm))	4	3	16.78	1.439	16.78	1.439	0.8309	8.58%	0.6367	10.46%
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	1	1	8.660							
104.03	Riboflavin, LC (mg / kg (ppm))	4	3	4.527	1.140	4.527	1.140	0.6580	25.18%	0.1800	12.74%
104.99	Riboflavin, Miscellaneous (mg / kg (ppm))	1	1	3.675							
105.00	Thiamine, LC (mg / kg (ppm))	4	4	6.088	1.284	6.088	1.284	0.6418	21.08%	0.2100	12.19%
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	7.250							
105.99	Thiamine, Miscellaneous (mg / kg (ppm))	1	1	10.40							
106.00	Vitamin A, Color (KU / kg)	1	1	8,205							
106.01	Vitamin A, UV (KU / kg)	1	1	7.980							
106.02	Vitamin A, LC (KU / kg)	19	17	7.170	2.492	6.973	1.523	0.4616	21.83%	0.4340	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	27.40							
107.99	Vitamin B12, Miscellaneous (µg / kg (ppb))	1	1	71.50							
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	1.650							
108.02	Vitamin D3, LC (KU / kg)	8	6	1.197	0.9903	0.9150	0.3834	0.1957	41.90%	0.1490	
109.02	Vitamin E, LC (IU / kg)	16	15	47.08	11.76	49.48	7.187	2.320	14.52%	2.501	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	51.08							
112.01	Pyridoxine, LC (µg / g)	5	4	3.171	2.047	3.171	2.047	1.024	64.56%	0.0775	
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	0.9320							
113.02	Folic acid, LC (mg / kg (ppm))	2	2	0.5925	0.3924						
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.3235							
114.99	Biotin, Miscellaneous (mg / kg (ppm))	1	1	0.2550							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	9.660							

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120.00	Alanine, Post-col Ninhydrin Der (%)	25	25	1.498	0.0647	1.499	0.0429	0.0107	2.86%	0.0173	3.76%
120.02	Alanine, Post-col OPA Der (%)	1	1	1.549							
120.05	Alanine, Pre-col AQC Der (%)	7	7	1.454	0.0860	1.455	0.0948	0.0448	6.51%	0.0438	3.78%
120.99	Alanine, Miscellaneous (%)	5	4	1.417	0.0283	1.417	0.0283	0.0142	2.00%	0.0244	3.80%
121.00	Arginine, Post-col Ninhydrin Der (%)	25	23	1.491	0.0377	1.492	0.0354	0.0092	2.37%	0.0223	3.77%
121.02	Arginine, Post-col OPA Der (%)	1	1	1.501							
121.05	Arginine, Pre-col AQC Der (%)	6	6	1.502	0.1868	1.542	0.1087	0.0555	7.05%	0.0703	3.75%
121.99	Arginine, Miscellaneous (%)	3	3	1.419	0.1617	1.419	0.1617	0.0934	11.40%	0.0569	3.79%
122.00	Aspartic, Post-col Ninhydrin Der (%)	25	24	1.945	0.0573	1.954	0.0423	0.0108	2.16%	0.0198	3.62%
122.02	Aspartic, Post-col OPA Der (%)	1	1	2.038							
122.05	Aspartic, Pre-col AQC Der (%)	7	7	1.935	0.2023	1.935	0.2294	0.1084	11.86%	0.0697	3.62%
122.99	Aspartic, Miscellaneous (%)	4	2	1.833	0.0106	1.833	0.0106			0.0050	3.65%
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	24	23	0.3054	0.0351	0.3004	0.0254	0.0066	8.47%	0.0076	4.79%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.3230							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	6	5	0.2588	0.1156	0.2588	0.1156	0.0194	44.67%	0.0047	4.90%
124.99	Cysteine/Cystine, Miscellaneous (%)	4	4	0.3316	0.0183	0.3316	0.0183	0.0091	5.51%	0.0185	4.72%
125.00	Glutamic, Post-col Ninhydrin Der (%)	25	24	3.724	0.1656	3.715	0.1593	0.0406	4.29%	0.0460	3.28%
125.02	Glutamic, Post-col OPA Der (%)	1	1	3.801							
125.05	Glutamic, Pre-col AQC Der (%)	7	7	3.689	0.3649	3.663	0.3528	0.1667	9.63%	0.1334	3.29%
125.99	Glutamic, Miscellaneous (%)	4	4	3.719	0.4134	3.719	0.4134	0.2067	11.12%	0.0375	3.28%
126.00	Glycine, Post-col Ninhydrin Der (%)	25	23	1.791	0.0653	1.797	0.0550	0.0143	3.06%	0.0145	3.66%
126.02	Glycine, Post-col OPA Der (%)	1	1	1.825							
126.05	Glycine, Pre-col AQC Der (%)	7	7	1.812	0.1423	1.807	0.1493	0.0705	8.26%	0.0506	3.66%
126.99	Glycine, Miscellaneous (%)	4	4	1.339	0.6194	1.339	0.6194	0.3097	46.26%	0.0625	3.83%
127.00	Histidine, Post-col Ninhydrin Der (%)	25	25	0.5849	0.0437	0.5847	0.0384	0.0096	6.56%	0.0097	4.34%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.5750							
127.05	Histidine, Pre-col AQC Der (%)	7	7	0.5625	0.0432	0.5625	0.0490	0.0232	8.72%	0.0202	4.36%
127.99	Histidine, Miscellaneous (%)	5	5	0.5611	0.1376	0.5611	0.1376	0.0615	24.51%	0.0074	4.36%
128.00	Isoleucine, Post-col Ninhydrin Der (%)	25	24	0.8306	0.0594	0.8355	0.0547	0.0140	6.54%	0.0144	4.11%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.8810							
128.05	Isoleucine, Pre-col AQC Der (%)	7	7	0.8517	0.0659	0.8554	0.0661	0.0312	7.73%	0.0348	4.09%
128.99	Isoleucine, Miscellaneous (%)	5	5	0.8503	0.0595	0.8503	0.0595	0.0266	7.00%	0.0186	4.10%
129.00	Leucine, Post-col Ninhydrin Der (%)	25	25	1.820	0.0485	1.822	0.0336	0.0084	1.84%	0.0255	3.65%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.855							
129.05	Leucine, Pre-col AQC Der (%)	7	7	1.806	0.1013	1.810	0.1057	0.0499	5.84%	0.0492	3.66%
129.99	Leucine, Miscellaneous (%)	5	4	1.785	0.0831	1.785	0.0831	0.0479	4.65%	0.0168	3.67%
130.00	L-Lysine, Post-col Ninhydrin Der (%)	26	26	1.186	0.0721	1.187	0.0656	0.0161	5.53%	0.0200	3.90%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	1.343							
130.05	L-Lysine, Pre-col AQC Der (%)	7	7	1.170	0.0968	1.170	0.1097	0.0519	9.38%	0.0228	3.91%
130.99	L-Lysine, Miscellaneous (%)	6	6	1.206	0.1302	1.206	0.1477	0.0754	12.24%	0.0570	3.89%

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131.00	Methionine, PAO Post-col Ninhydrin Der (%)	25	24	0.3882	0.0232	0.3879	0.0255	0.0065	6.58%	0.0070	4.61%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.3925							
131.05	Methionine, PAO Pre-col AQC Der (%)	7	7	0.3829	0.0414	0.3831	0.0464	0.0219	12.12%	0.0086	4.62%
131.99	Methionine, Miscellaneous (%)	5	4	0.4404	0.0712	0.4404	0.0712	0.0356	16.16%	0.0068	4.53%
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	25	25	0.9979	0.0445	0.9975	0.0493	0.0123	4.95%	0.0154	4.00%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	1.006							
132.05	Phenylalanine, Pre-col AQC Der (%)	7	7	0.9711	0.0727	0.9785	0.0643	0.0304	6.57%	0.0223	4.01%
132.99	Phenylalanine, Miscellaneous (%)	5	5	0.9864	0.0893	0.9864	0.0893	0.0399	9.06%	0.0096	4.01%
133.00	Proline, Post-col Ninhydrin Der (%)	25	24	1.610	0.1542	1.587	0.0942	0.0240	5.93%	0.0268	3.73%
133.05	Proline, Pre-col AQC Der (%)	7	6	1.622	0.0722	1.628	0.0687	0.0350	4.22%	0.0443	3.72%
133.99	Proline, Miscellaneous (%)	4	4	1.545	0.0870	1.545	0.0870	0.0435	5.63%	0.0350	3.75%
134.00	Serine, Post-col Ninhydrin Der (%)	25	24	1.007	0.0494	1.005	0.0377	0.0096	3.75%	0.0184	4.00%
134.02	Serine, Post-col OPA Der (%)	1	1	0.9445							
134.05	Serine, Pre-col AQC Der (%)	6	5	0.9815	0.0777	0.9815	0.0777	0.0435	7.92%	0.0074	4.01%
134.99	Serine, Miscellaneous (%)	4	4	1.069	0.1426	1.069	0.1426	0.0713	13.34%	0.0125	3.96%
135.00	Threonine, Post-col Ninhydrin Der (%)	25	24	0.8467	0.0253	0.8468	0.0282	0.0072	3.34%	0.0110	4.10%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.8590							
135.05	Threonine, Pre-col AQC Der (%)	7	7	0.8226	0.0875	0.8425	0.0464	0.0219	5.51%	0.0358	4.10%
135.99	Threonine, Miscellaneous (%)	5	5	0.8130	0.1096	0.8130	0.1096	0.0490	13.49%	0.0180	4.13%
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	8	8	0.2667	0.0908	0.2563	0.0488	0.0216	19.03%	0.0063	4.91%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	4	4	0.2483	0.0120	0.2483	0.0120	0.0060	4.84%	0.0050	4.93%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2525							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	4	0.2583	0.0025	0.2583	0.0025	0.0013	0.98%	0.0023	4.90%
136.05	Tryptophan, Pre-col AQC Der (%)	2	2	0.3501	0.1387						
136.99	Tryptophan, Miscellaneous (%)	3	3	0.3267	0.1569	0.3267	0.1569	0.0906	48.02%	0.0200	4.73%
137.00	Tyrosine, Post-col Ninhydrin Der (%)	18	18	0.6694	0.0924	0.6649	0.0844	0.0249	12.70%	0.0187	4.25%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.7560							
137.05	Tyrosine, Pre-col AQC Der (%)	7	6	0.7473	0.1216	0.7569	0.1149	0.0587	15.19%	0.0247	4.17%
137.99	Tyrosine, Miscellaneous (%)	4	4	0.6150	0.1375	0.6150	0.1375	0.0688	22.36%	0.0150	4.30%
138.00	Valine, Post-col Ninhydrin Der (%)	25	24	1.063	0.0847	1.072	0.0744	0.0190	6.94%	0.0194	3.96%
138.02	Valine, Post-col OPA Der (%)	1	1	1.158							
138.05	Valine, Pre-col AQC Der (%)	7	7	1.112	0.0884	1.113	0.0973	0.0459	8.74%	0.0335	3.94%
138.99	Valine, Miscellaneous (%)	5	5	1.053	0.1058	1.053	0.1058	0.0473	10.05%	0.0342	3.97%
139.00	Taurine, Post-col Ninhydrin Der (%)	4	3	0.1207	0.0953	0.1207	0.0953			0.0000	5.50%
139.02	Taurine, Post-col OPA Der (%)	1	1	0.0350							
139.05	Taurine, Pre-col AQC Der (%)	2	2	11.18	15.76						
139.99	Taurine, Miscellaneous (%)	1	1	0.0500							
160.99	Fructose, Miscellaneous (%)	2	2	0.1338	0.0866						
162.99	Glucose, Miscellaneous (%)	2	1	0.0630							
163.99	Lactose, Miscellaneous (%)	2		0.0000							

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164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.99	Sucrose, Miscellaneous (%)	2	2	1.720	0.0141						
166.99	Raffinose, Miscellaneous (%)	2	2	0.4398	0.0004						
167.99	Stachyose, Miscellaneous (%)	2	2	0.5680	0.1032						
400.01	Water Activity, Aqualab chilled mirror (Units)	7	7	0.4333	0.0685	0.4134	0.0221	0.0105	5.35%	0.0029	
400.99	Water Activity, Miscellaneous (Units)	3	3	0.4153	0.0300	0.4153	0.0300	0.0173	7.23%	0.0013	
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	31.17							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	2	2	0.0475	0.0141						
516.42	Arsenic, Total, ICP, Open vessel (mg / kg (ppm))	1	1	1.078							
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	1		0.8900							
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.0623	0.0103						
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	2	2	0.1079	0.0423						
518.31	Cadmium, AAS, Dry ash (mg / kg (ppm))	1		0.5600							
518.34	Cadmium, AAS, Graphite furnace (mg / kg (ppm))	1	1	0.0495							
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	2	1	0.0703							
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	2	1	0.0680							
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.0623	0.0024	0.0623	0.0024	0.0017	3.77%	0.0050	22.00%
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	2	2	0.0668	0.0087						
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	2	2	1.886	0.4655						
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	2	2	2.613	0.0389						
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	2	2	1.977	1.305						
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	0.7900							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	2	2	1.968	0.5050						
526.31	Lead, AAS, Dry ash (mg / kg (ppm))	1		0.2000							
526.34	Lead, AAS, Graphite furnace (mg / kg (ppm))	1	1	1.592							
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	2	2	1.150	0.0077						
526.43	Lead, ICP, Microwave (mg / kg (ppm))	2	2	1.270	0.1128						
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	3	3	1.347	0.0202	1.347	0.0202	0.0117	1.50%	0.0667	15.30%
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	2	2	1.569	0.1687						
529.99	Mercury, Miscellaneous (µg / kg (ppb))	1	1	5.980							
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	2	2	1.964	0.0792						
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	1.775							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	1	1	2.295							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	4	2	0.0055	0.0000	0.0055	0.0000			0.0007	
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	4	3	0.0697	0.0131	0.0697	0.0131	0.0075	18.74%	0.0042	
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	4	3	1.613	0.2364	1.613	0.2364	0.1365	14.66%	0.0475	
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	5	4	0.2538	0.0307	0.2538	0.0307	0.0154	12.11%	0.0047	
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	4	3	0.5448	0.0839	0.5448	0.0839	0.0484	15.40%	0.0166	
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	4	3	2.399	0.2496	2.399	0.2496	0.1441	10.40%	0.0502	
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	5	4	2.201	0.3009	2.201	0.3009	0.1505	13.67%	0.0491	

Test Material Code # 201923

(Precision Report Follows)

Issue Date : 04/30/2019

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
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	5	4	0.1256	0.0210	0.1256	0.0210	0.0105	16.74%	0.0041	
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	3	2	0.1104	0.1338	0.1104	0.1338			0.0053	
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	3	3	0.2036	0.2957	0.2036	0.2957	0.2091	145.19%	0.0036	
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	2	2	0.1528	0.1588						
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	4	3	0.0080	0.0017	0.0080	0.0017	0.0012	21.63%	0.0009	
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	3	2	0.0564	0.0687	0.0564	0.0687			0.0052	
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.0000							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	2	2	0.0053	0.0010						
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	2	2	0.0546	0.0642						
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	3	2	0.0063	0.0010	0.0063	0.0010			0.0001	
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	1	1	0.0030							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	3	3	0.1450	0.0250	0.1450	0.0250	0.0177	17.24%	0.0033	
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	3	3	2.237	0.3735	2.237	0.3735	0.2156	16.70%	0.0533	
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	2	2	15.95	19.04						
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	2	2	20.72	25.10						
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	2	2	16.15	19.47						
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	8.300							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	3	3	7.395	1.010	7.395	1.010	0.5828	13.65%	0.2031	

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

Methods Reported: 89

Dry Dog Food

Method Precision Report

Labs Reporting: 217

Test Material Code # 201923

Issue Date : 04/30/2019

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 %rstd	Reproducibility %RSD	sR/sr
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	59	53	7.344	0.3800	0.2175	0.0838	0.2331	2.97%	1.14%	3.18%	2.780
001.99	Loss on Drying, Miscellaneous (%)	20	16	7.223	0.3319	0.2740	0.0466	0.2780	3.78%	0.64%	3.83%	5.971
002.01	Protein, Crude, Auto Kjel-Foss (%)	18	16	24.17	0.4292	0.3401	0.1190	0.3603	1.41%	0.49%	1.49%	3.027
002.05	Protein, Crude, Copper, Boric Acid (%)	35	33	24.11	0.3393	0.2084	0.1185	0.2397	0.86%	0.49%	0.99%	2.023
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	147	138	24.52	0.3828	0.2654	0.1440	0.3019	1.08%	0.59%	1.23%	2.096
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	11	9	6.211	1.022	0.2497	0.0581	0.2563	4.17%	0.97%	4.28%	4.411
003.06	Fat, Crude, Pet Ether (%)	15	13	6.513	1.289	0.9370	0.0951	0.9419	14.95%	1.52%	15.03%	9.903
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	12	11	5.829	0.2053	0.1020	0.0927	0.1379	1.74%	1.58%	2.35%	1.486
003.10	Fat, Crude, Randall, Pet Ether (%)	32	27	5.790	0.2508	0.1526	0.0617	0.1646	2.66%	1.07%	2.87%	2.668
003.14	Fat, Crude, Ankom (%)	42	38	5.797	0.2826	0.1143	0.1053	0.1554	1.95%	1.80%	2.65%	1.476
004.00	Fiber, Crude, Asbestos Free (%)	18	17	3.659	0.7026	0.4043	0.1456	0.4297	11.48%	4.13%	12.20%	2.951
004.06	Fiber, Crude, Fibertec (%)	28	25	3.962	0.8506	0.4574	0.0751	0.4635	12.09%	1.99%	12.25%	6.171
004.07	Fiber, Crude, ANKOM (%)	73	69	3.456	0.5165	0.4176	0.1782	0.4540	12.09%	5.16%	13.14%	2.548
005.00	Ash, 2h @ 600°C (%)	109	102	7.643	0.3582	0.1587	0.0543	0.1677	2.08%	0.71%	2.20%	3.090
005.05	Ash, 3h @ 550°C (%)	38	33	7.773	0.1318	0.1047	0.0472	0.1148	1.35%	0.61%	1.48%	2.431
005.99	Ash, Miscellaneous (%)	10	8	7.596	0.3449	0.2081	0.1284	0.2445	2.71%	1.67%	3.19%	1.905
008.02	Fiber, Acid Detergent, Crucible (%)	16	14	5.889	1.246	0.8968	0.1650	0.9119	15.85%	2.92%	16.11%	5.526
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	41	5.621	0.9582	0.9458	0.2168	0.9703	16.83%	3.86%	17.26%	4.475
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	15	14	18.14	1.997	1.976	0.4079	2.018	10.89%	2.25%	11.12%	4.946
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	41	17.44	1.942	1.973	0.3259	2.000	11.32%	1.87%	11.47%	6.137
010.99	Moisture, Miscellaneous (%)	19	16	7.607	0.7770	0.5851	0.0932	0.5925	7.82%	1.25%	7.92%	6.357
011.01	Loss on Drying, 135°C 2hr (%)	71	66	7.823	0.2621	0.2347	0.0751	0.2464	3.00%	0.96%	3.14%	3.281
012.00	Starch, Polarimetric (Ewers) (%)	19	18	32.94	1.165	0.6615	0.1922	0.6888	1.99%	0.58%	2.08%	3.585
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	10	31.70	3.122	1.836	0.5501	1.917	5.65%	1.69%	5.90%	3.484
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	28	25	9.057	0.5097	0.4053	0.1182	0.4222	4.45%	1.30%	4.63%	3.573
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	30	28	9.297	0.7271	0.6233	0.1695	0.6459	6.65%	1.81%	6.90%	3.811
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	12	11	8.157	0.7742	0.4988	0.1047	0.5097	5.99%	1.26%	6.12%	4.869
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	14	14	9.034	0.6592	0.6438	0.2003	0.6743	7.13%	2.22%	7.46%	3.366
019.00	Calcium, Ox-Mn04 Vol. (%)	12	11	1.668	0.0939	0.0604	0.0307	0.0677	3.58%	1.82%	4.01%	2.206
019.08	Calcium, EDTA (%)	11	11	1.616	0.2145	0.2131	0.0345	0.2158	13.19%	2.14%	13.36%	6.254
019.31	Calcium, AAS, Dry ash (%)	25	24	1.676	0.0872	0.0862	0.0184	0.0881	5.14%	1.10%	5.26%	4.795
019.41	Calcium, ICP, Dry ash (%)	32	30	1.665	0.0672	0.0642	0.0269	0.0696	3.85%	1.61%	4.17%	2.588
019.42	Calcium, ICP, Open vessel (%)	23	21	1.703	0.1187	0.0865	0.0558	0.1029	5.02%	3.24%	5.98%	1.844

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
019.43	Calcium, ICP, Microwave (%)	34	31	1.701	0.0862	0.0736	0.0272	0.0785	4.35%	1.61%	4.64%	2.884
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	28	25	16.96	3.588	2.959	0.5741	3.014	17.98%	3.49%	18.31%	5.250
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	21	19	16.88	1.817	1.094	0.5302	1.216	6.55%	3.18%	7.28%	2.293
022.43	Copper, ICP, Microwave (mg / kg (ppm))	25	22	16.45	1.610	0.9706	0.5931	1.138	5.91%	3.61%	6.92%	1.918
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	16	14	277.4	79.33	41.67	6.829	42.22	14.13%	2.32%	14.31%	6.183
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	29	27	294.2	25.88	21.93	7.129	23.06	7.54%	2.45%	7.93%	3.234
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	18	16	277.3	50.70	34.18	10.66	35.81	11.93%	3.72%	12.50%	3.359
025.43	Iron, ICP, Microwave (mg / kg (ppm))	25	23	309.6	21.55	20.67	10.65	23.26	6.67%	3.44%	7.51%	2.183
027.31	Magnesium, AAS, Dry ash (%)	14	11	0.2102	0.0145	0.0085	0.0032	0.0091	4.00%	1.52%	4.28%	2.809
027.41	Magnesium, ICP, Dry ash (%)	29	27	0.2101	0.0117	0.0094	0.0056	0.0110	4.47%	2.66%	5.21%	1.956
027.42	Magnesium, ICP, Open vessel (%)	21	19	0.2165	0.0154	0.0114	0.0056	0.0127	5.31%	2.62%	5.92%	2.258
027.43	Magnesium, ICP, Microwave (%)	31	29	0.2120	0.0139	0.0112	0.0063	0.0129	5.32%	3.00%	6.11%	2.035
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	12	12	53.24	5.636	5.556	1.341	5.716	10.44%	2.52%	10.74%	4.263
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	26	26	55.94	3.318	3.238	1.028	3.397	5.79%	1.84%	6.07%	3.305
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	20	17	58.97	6.578	3.908	0.9895	4.031	6.81%	1.72%	7.02%	4.074
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	25	24	55.50	3.981	3.209	1.287	3.457	5.73%	2.30%	6.18%	2.687
031.01	Phosphorus, Photometric (%)	48	44	1.060	0.0688	0.0366	0.0136	0.0391	3.42%	1.27%	3.65%	2.870
031.41	Phosphorus, ICP, Dry ash (%)	30	29	1.073	0.0430	0.0419	0.0135	0.0441	3.91%	1.26%	4.11%	3.263
031.42	Phosphorus, ICP, Open vessel (%)	22	20	1.099	0.0461	0.0442	0.0239	0.0502	4.02%	2.18%	4.57%	2.099
031.43	Phosphorus, ICP, Microwave (%)	33	32	1.119	0.0534	0.0502	0.0258	0.0564	4.48%	2.31%	5.04%	2.183
032.31	Potassium, AAS, Dry ash (%)	11	10	0.7909	0.0703	0.0344	0.0128	0.0368	4.26%	1.58%	4.54%	2.866
032.41	Potassium, ICP, Dry ash (%)	29	28	0.8089	0.0397	0.0386	0.0141	0.0411	4.77%	1.75%	5.08%	2.908
032.42	Potassium, ICP, Open vessel (%)	21	21	0.8409	0.0504	0.0482	0.0208	0.0525	5.73%	2.47%	6.24%	2.525
032.43	Potassium, ICP, Microwave (%)	30	29	0.8244	0.0430	0.0413	0.0171	0.0447	5.00%	2.08%	5.42%	2.610
033.00	Salt as chloride, Sol Cl (%)	21	19	0.7248	0.1045	0.0813	0.0185	0.0834	10.99%	2.50%	11.27%	4.515
033.01	Salt as chloride, Poten Cl (%)	24	21	0.7984	0.0417	0.0248	0.0078	0.0260	3.15%	1.00%	3.30%	3.318
033.99	Salt, Miscellaneous (%)	9	8	0.7868	0.0758	0.0743	0.0211	0.0772	9.44%	2.68%	9.82%	3.658
035.31	Sodium, AAS, Dry ash (%)	19	17	0.3536	0.0317	0.0252	0.0095	0.0269	7.21%	2.71%	7.70%	2.845
035.41	Sodium, ICP, Dry ash (%)	36	33	0.3435	0.0133	0.0123	0.0051	0.0133	3.58%	1.48%	3.87%	2.620
035.42	Sodium, ICP, Open vessel (%)	18	18	0.3470	0.0183	0.0177	0.0068	0.0190	5.10%	1.96%	5.46%	2.786
035.43	Sodium, ICP, Microwave (%)	29	26	0.3474	0.0251	0.0158	0.0081	0.0178	4.63%	2.37%	5.20%	2.199
036.42	Sulfur, ICP, Open vessel (%)	22	19	0.2488	0.0169	0.0132	0.0056	0.0143	5.31%	2.27%	5.78%	2.541
036.43	Sulfur, ICP, Microwave (%)	13	11	0.2546	0.0147	0.0146	0.0049	0.0154	5.72%	1.90%	6.03%	3.167
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	14	12	172.2	12.31	8.355	3.071	8.902	4.95%	1.82%	5.27%	2.899
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	27	26	171.0	14.78	14.54	3.733	15.01	8.50%	2.18%	8.78%	4.020
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	20	17	160.8	41.22	14.37	2.971	14.67	8.48%	1.75%	8.66%	4.939
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	28	25	173.0	11.87	9.922	4.528	10.91	5.76%	2.63%	6.33%	2.409
106.02	Vitamin A, LC (KU / kg)	19	15	7.170	2.492	2.089	0.3286	2.115	30.82%	4.85%	31.20%	6.436
109.02	Vitamin E, LC (IU / kg)	16	14	47.08	11.76	8.402	2.397	8.737	17.06%	4.87%	17.74%	3.645
120.00	Alanine, Post-col Ninhydrin Der (%)	25	23	1.498	0.0647	0.0549	0.0143	0.0567	3.68%	0.96%	3.81%	3.966
121.00	Arginine, Post-col Ninhydrin Der (%)	25	22	1.491	0.0377	0.0327	0.0172	0.0369	2.20%	1.16%	2.48%	2.143
122.00	Aspartic, Post-col Ninhydrin Der (%)	25	23	1.945	0.0573	0.0561	0.0170	0.0586	2.89%	0.87%	3.02%	3.454
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	24	22	0.3054	0.0351	0.0268	0.0068	0.0277	8.92%	2.26%	9.20%	4.065

Test Material Code # 201923

Issue Date : 04/30/2019

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 (%)	25	23	3.724	0.1656	0.1332	0.0394	0.1389	3.60%	1.06%	3.75%	3.523
126.00	Glycine, Post-col Ninhydrin Der (%)	25	22	1.791	0.0653	0.0496	0.0130	0.0513	2.76%	0.72%	2.85%	3.960
127.00	Histidine, Post-col Ninhydrin Der (%)	25	24	0.5849	0.0437	0.0369	0.0084	0.0378	6.35%	1.44%	6.52%	4.514
128.00	Isoleucine, Post-col Ninhydrin Der (%)	25	23	0.8306	0.0594	0.0595	0.0120	0.0607	7.15%	1.45%	7.29%	5.044
129.00	Leucine, Post-col Ninhydrin Der (%)	25	23	1.820	0.0485	0.0367	0.0212	0.0423	2.02%	1.17%	2.34%	2.000
130.00	L-Lysine, Post-col Ninhydrin Der (%)	26	24	1.186	0.0721	0.0632	0.0148	0.0649	5.29%	1.23%	5.43%	4.400
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	25	24	0.3882	0.0232	0.0226	0.0074	0.0238	5.82%	1.91%	6.13%	3.209
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	25	24	0.9979	0.0445	0.0442	0.0125	0.0459	4.43%	1.25%	4.61%	3.678
133.00	Proline, Post-col Ninhydrin Der (%)	25	23	1.610	0.1542	0.0960	0.0201	0.0981	6.05%	1.27%	6.19%	4.873
134.00	Serine, Post-col Ninhydrin Der (%)	25	21	1.007	0.0494	0.0350	0.0137	0.0376	3.48%	1.36%	3.73%	2.750
135.00	Threonine, Post-col Ninhydrin Der (%)	25	24	0.8467	0.0253	0.0243	0.0100	0.0263	2.87%	1.18%	3.10%	2.630
137.00	Tyrosine, Post-col Ninhydrin Der (%)	18	17	0.6694	0.0924	0.0722	0.0186	0.0746	11.02%	2.83%	11.38%	4.019
138.00	Valine, Post-col Ninhydrin Der (%)	25	23	1.063	0.0847	0.0692	0.0159	0.0710	6.45%	1.49%	6.62%	4.454

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