



**AAFCO**  
Proficiency Testing Program



**Animal Feed Scheme**  
**Beef Feed, Medicated**  
**Test Material Code # 201927**

**Method Summary Report**  
(Precision Report Follows)

**# Labs Reporting: 197**  
**# Methods Reported: 406**  
**Issue Date : 08/31/2019**

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	0.4000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	5	8.704	0.5001	8.704	0.5001	0.2237	5.75%	0.0446	2.89%
001.03	Loss on Drying, Low temp. methods (%)	5	4	8.902	0.0271	8.902	0.0271	0.0135	0.30%	0.0286	2.88%
001.05	Loss on Drying, LECO (%)	2	2	8.635	0.0566						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	50	47	8.861	0.4289	8.882	0.3471	0.0633	3.91%	0.0928	2.88%
001.99	Loss on Drying, Miscellaneous (%)	23	23	8.812	0.4874	8.855	0.3939	0.1027	4.45%	0.1546	2.88%
002.01	Protein, Crude, Auto Kjell-Foss (%)	13	13	17.85	0.3389	17.79	0.0882	0.0306	0.50%	0.0957	2.37%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	3	3	17.49	0.4388	17.49	0.4388	0.2533	2.51%	0.0966	2.39%
002.03	Protein, Crude, Hach Method (%)	1	1	17.02							
002.04	Protein, Crude, Copper Catalyst (%)	5	4	18.11	0.4776	18.11	0.4776	0.2388	2.64%	0.1425	2.35%
002.05	Protein, Crude, Copper, Boric Acid (%)	33	31	17.74	0.2047	17.74	0.2176	0.0488	1.23%	0.0800	2.37%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	130	125	17.90	1.079	17.98	0.2633	0.0294	1.46%	0.1548	2.36%
002.08	Protein, Crude, Cu/Ti (%)	2	2	18.23	0.4200						
002.11	Protein, Crude, NIR (%)	5	5	19.15	0.4823	19.15	0.4823	0.2157	2.52%	0.3086	2.29%
002.99	Protein, Crude, Miscellaneous (%)	1	1	18.25							
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	11	11	3.546	0.2391	3.548	0.2683	0.1011	7.56%	0.1402	3.31%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	2	2	3.553	1.043						
003.05	Fat, Crude, Distillers Method (%)	1	1	3.685							
003.06	Fat, Crude, Pet Ether (%)	18	18	3.613	0.3164	3.576	0.2116	0.0624	5.92%	0.0837	3.30%
003.07	Fat, Crude, Aqueous Extraction (%)	1	1	3.245							
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	16	16	3.592	0.3052	3.596	0.3186	0.0995	8.86%	0.0988	3.30%
003.10	Fat, Crude, Randall, Pet Ether (%)	32	31	3.257	0.2891	3.240	0.2611	0.0586	8.06%	0.0821	3.35%
003.11	Fat, Crude, NIR (%)	7	7	4.070	0.6581	4.070	0.7463	0.3526	18.34%	0.0636	3.24%
003.12	Fat, Crude, Hexane Ext (%)	2	2	2.918	0.1032						
003.13	Fat, Crude, Randall, Hexane Ext. (%)	6	6	3.306	0.2845	3.306	0.3227	0.1647	9.76%	0.1217	3.34%
003.14	Fat, Crude, Ankom (%)	53	52	3.043	0.5108	3.062	0.3479	0.0603	11.36%	0.1412	3.38%
003.99	Fat, Crude, Miscellaneous (%)	2	2	1.595	1.336						
004.00	Fiber, Crude, Asbestos Free (%)	15	15	11.97	0.9792	11.83	0.6338	0.2046	5.36%	0.3722	2.76%
004.01	Fiber, Crude, Sing Filt (%)	1	1	10.05							
004.03	Fiber, Crude, Fritted Glass (%)	5	4	12.06	0.6042	12.06	0.6042	0.3021	5.01%	0.0500	2.75%

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004.06	Fiber, Crude, Fibertec (%)	19	18	11.92	0.5990	11.92	0.6700	0.1974	5.62%	0.1172	2.75%
004.07	Fiber, Crude, ANKOM (%)	71	70	12.10	1.232	12.03	0.9847	0.1471	8.18%	0.2580	2.75%
004.11	Fiber, Crude, NIR (%)	6	6	10.29	3.238	10.93	2.047	1.045	18.73%	0.2033	2.79%
004.99	Fiber, Crude, Miscellaneous (%)	3	3	11.42	0.2875	11.42	0.2875	0.1660	2.52%	0.1500	2.77%
005.00	Ash, 2h @ 600°C (%)	96	94	12.26	0.5342	12.31	0.4807	0.0620	3.91%	0.1465	2.74%
005.02	Ash, LECO (%)	1	1	12.42							
005.03	Ash, Microwave furnace (%)	1	1	12.20							
005.05	Ash, 3h @ 550°C (%)	32	31	12.68	0.4590	12.76	0.2944	0.0661	2.31%	0.0808	2.73%
005.11	Ash, NIR (%)	4	4	9.123	1.970	9.123	1.970	0.9851	21.60%	0.2442	2.87%
005.99	Ash, Miscellaneous (%)	8	8	12.51	0.9588	12.78	0.2974	0.1314	2.33%	0.0785	2.73%
006.00	Total Sugars, As sucrose (%)	2	2	3.815	0.1485						
006.99	Total Sugars, Miscellaneous (%)	3	3	3.108	0.7143	3.108	0.7143	0.4124	22.98%	0.2233	3.37%
008.02	Fiber, Acid Detergent, Crucible (%)	14	14	16.17	1.111	16.21	1.180	0.3943	7.28%	0.3059	2.48%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	16.25							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	43	41	16.04	1.436	15.97	1.423	0.2778	8.91%	0.3286	2.50%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	3	3	15.69	0.5187	15.69	0.5187	0.2995	3.31%	0.4267	2.52%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	2	2	33.54	9.617						
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	13	12	29.45	2.125	29.70	1.738	0.6272	5.85%	0.9792	1.83%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	41	28.74	1.619	28.76	1.764	0.3444	6.13%	0.4854	1.86%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	2	2	30.63	2.744						
010.03	Moisture, Karl-Fischer (%)	2	2	9.165	0.3323						
010.11	Moisture, NIR (%)	3	3	9.542	0.5972	9.542	0.5972	0.3448	6.26%	0.0370	2.85%
010.99	Moisture, Miscellaneous (%)	19	19	17.65	25.69	9.098	0.3893	0.1116	4.28%	0.1089	2.87%
011.01	Loss on Drying, 135°C 2hr (%)	65	63	9.764	0.4519	9.784	0.4340	0.0683	4.44%	0.1332	2.84%
011.02	Loss on Drying, 130°C for 2 hours (%)	1	1	9.420							
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	10.06	0.3712						
012.00	Starch, Polarimetric (Ewers) (%)	15	15	17.07	0.4167	17.07	0.4725	0.1525	2.77%	0.1021	2.42%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	12	15.55	2.176	15.49	1.526	0.5508	9.85%	0.4577	2.54%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	4	4	16.05	1.160	16.05	1.160	0.5799	7.22%	0.4225	2.50%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	4	4	14.66	1.127	14.66	1.127	0.5633	7.68%	0.2375	2.61%
012.11	Starch, NIR (%)	4	4	19.20	1.573	19.20	1.573	0.7866	8.19%	0.2693	2.28%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	17	4.472	0.7687	4.441	0.6411	0.1944	14.43%	0.1785	3.20%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	15	15	4.658	0.5685	4.633	0.5892	0.1901	12.72%	0.2678	3.18%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	3.520							
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	6	6	3.737	0.3781	3.737	0.4287	0.2188	11.47%	0.0826	3.28%
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	3.644							
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	6	6	5.054	1.091	5.054	1.237	0.6312	24.47%	0.5450	3.13%
013.99	Fat, Acid Pretreat, Pretreatment, Misc (%)	1	1	4.350							
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	4	4	146.7	21.69	146.7	21.69	10.84	14.79%	2.860	7.55%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	144.0							

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015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	6	6	136.0	13.92	136.0	15.78	8.053	11.60%	5.335	7.64%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	91.00							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	2	2	182.0	33.23						
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	4	4	10.99	1.564	10.99	1.564	0.7822	14.24%	0.1950	11.15%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	7	6	11.94	1.751	11.94	1.985	1.013	16.62%	0.7880	11.01%
017.43	Boron, ICP, Microwave (mg / kg (ppm))	5	3	10.76	0.7269	10.76	0.7269	0.4197	6.76%	0.0900	11.19%
017.44	Boron, ICP, Dry ash (mg / kg (ppm))	1	1	9.836							
017.53	Boron, ICP-MS, Microwave (mg / kg (ppm))	1	1	10.26							
019.00	Calcium, Ox-Mn04 Vol. (%)	11	11	2.953	0.1275	2.951	0.1412	0.0532	4.78%	0.0317	3.40%
019.02	Calcium, Hach Method (%)	1	1	2.840							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	2.964							
019.08	Calcium, EDTA (%)	9	8	2.914	0.0673	2.914	0.0764	0.0337	2.62%	0.0183	3.41%
019.31	Calcium, AAS, Dry ash (%)	23	23	2.992	0.2283	2.967	0.1987	0.0518	6.70%	0.0523	3.40%
019.32	Calcium, AAS, Open vessel (%)	2	2	2.757	0.1655						
019.33	Calcium, AAS, Microwave (%)	2	2	3.007	0.0046						
019.35	Calcium, AAS, Open vessel (%)	1	1	3.000							
019.41	Calcium, ICP, Dry ash (%)	29	28	2.853	0.1567	2.849	0.1599	0.0378	5.61%	0.0856	3.42%
019.42	Calcium, ICP, Open vessel (%)	24	24	2.932	0.2325	2.952	0.1944	0.0496	6.58%	0.1010	3.40%
019.43	Calcium, ICP, Microwave (%)	21	20	2.883	0.1417	2.891	0.1343	0.0375	4.65%	0.0417	3.41%
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	2.680							
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	2.613	0.2336	2.613	0.2336	0.1652	8.94%	0.0498	3.46%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	3.027	0.1091	3.027	0.1091	0.0546	3.61%	0.1005	3.39%
019.99	Calcium, Miscellaneous (%)	5	5	2.891	0.1468	2.891	0.1468	0.0656	5.08%	0.0460	3.41%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	3	3	3.717	0.1069	3.717	0.1069	0.0756	2.88%	0.0733	13.13%
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	3	3	3.108	1.060	3.108	1.060	0.6122	34.11%	0.1633	13.49%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	5	4	3.166	0.3135	3.166	0.3135	0.1567	9.90%	0.2310	13.45%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	3	3	3.841	0.0210	3.841	0.0210	0.0121	0.55%	0.2173	13.06%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	3	3	3.285	0.1866	3.285	0.1866	0.1077	5.68%	0.1567	13.37%
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	4	4	3.730	0.5753	3.730	0.5753	0.2876	15.42%	0.3395	13.12%
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	15	15	64.84	8.155	65.05	8.808	2.843	13.54%	2.126	8.53%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	3	3	74.26	9.587	74.26	9.587	5.535	12.91%	5.744	8.37%
022.33	Copper, AAS, Microwave (mg / kg (ppm))	3	3	73.59	15.33	73.59	15.33	8.851	20.83%	4.137	8.38%
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	22	22	63.84	10.53	64.25	10.99	2.928	17.10%	3.331	8.55%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	23	23	87.03	12.61	85.22	7.322	1.908	8.59%	3.074	8.19%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	19	18	83.20	4.670	83.05	3.508	1.034	4.22%	2.091	8.23%
022.44	Copper, ICP, Dry ash (mg / kg (ppm))	1	1	87.81							
022.51	Copper, ICP-MS, Dry ash (mg / kg (ppm))	1	1	53.37							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	75.58	3.430						
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	4	4	78.72	3.318	78.72	3.318	1.659	4.21%	4.363	8.29%
022.99	Copper, Miscellaneous (mg / kg (ppm))	4	4	73.36	13.13	73.36	13.13	6.563	17.89%	5.725	8.38%

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025.31	Iron, AAS, Dry ash (mg / kg (ppm))	18	18	410.9	38.83	409.7	35.87	10.57	8.75%	7.974	6.47%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	2	2	432.2	72.90						
025.33	Iron, AAS, Microwave (mg / kg (ppm))	1	1	643.0							
025.35	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	345.0							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	24	24	416.6	45.07	417.6	43.20	11.02	10.34%	18.94	6.45%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	18	17	385.6	90.92	400.0	65.33	19.81	16.33%	16.26	6.49%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	18	17	424.0	30.11	424.0	30.60	9.277	7.22%	12.44	6.44%
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	1	1	218.1							
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	3	3	398.8	67.24	398.8	67.24	47.55	16.86%	101.0	6.50%
025.99	Iron, Miscellaneous (mg / kg (ppm))	3	3	416.8	30.88	416.8	30.88	17.83	7.41%	21.67	6.45%
027.31	Magnesium, AAS, Dry ash (%)	15	14	0.4068	0.0180	0.4059	0.0152	0.0051	3.75%	0.0109	4.58%
027.32	Magnesium, AAS, Open vessel (%)	2	2	0.3968	0.0025						
027.33	Magnesium, AAS, Microwave (%)	3	3	1,642	2,843	1,642	2,843	2,010	173.17%	7.341	0.25%
027.41	Magnesium, ICP, Dry ash (%)	23	22	0.3984	0.0198	0.3993	0.0190	0.0051	4.76%	0.0091	4.59%
027.42	Magnesium, ICP, Open vessel (%)	24	23	0.4080	0.0243	0.4098	0.0194	0.0051	4.73%	0.0109	4.57%
027.43	Magnesium, ICP, Microwave (%)	19	18	0.4084	0.0179	0.4083	0.0201	0.0059	4.93%	0.0087	4.58%
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.3944	0.0098	0.3944	0.0098	0.0056	2.48%	0.0140	4.60%
027.53	Magnesium, ICP-MS, Microwave (%)	4	4	0.4170	0.0199	0.4170	0.0199	0.0100	4.78%	0.0125	4.56%
027.99	Magnesium, Miscellaneous (%)	3	3	0.4133	0.0362	0.4133	0.0362	0.0209	8.75%	0.0067	4.57%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	15	14	200.9	33.33	197.8	10.39	3.471	5.25%	3.669	7.22%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	3	3	202.2	14.91	202.2	14.91	8.607	7.37%	20.92	7.19%
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	2	2	215.5	3.145						
028.34	Manganese, AAS, Dry ash (mg / kg (ppm))	1	1	94.85							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	20	189.1	12.20	189.3	13.38	3.739	7.07%	5.328	7.27%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	23	23	204.4	17.03	204.3	13.22	3.445	6.47%	5.573	7.18%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	18	17	210.4	16.59	209.7	14.87	4.508	7.09%	8.207	7.16%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	1	1	187.7							
028.51	Manganese, ICP-MS, Dry ash (mg / kg (ppm))	1	1	146.6							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	2	2	196.1	12.66						
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	5	5	202.4	14.38	202.4	14.38	6.429	7.10%	15.81	7.19%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	4	4	198.6	18.01	198.6	18.01	9.006	9.07%	6.250	7.21%
031.01	Phosphorus, Photometric (%)	44	44	0.7243	0.0354	0.7250	0.0306	0.0058	4.22%	0.0135	4.20%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	1	1	0.7150							
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.7126	0.0294	0.7126	0.0294	0.0170	4.13%	0.0195	4.21%
031.06	Phosphorus, Hach Method (%)	1	1	0.6700							
031.41	Phosphorus, ICP, Dry ash (%)	25	24	0.7228	0.0495	0.7232	0.0499	0.0127	6.90%	0.0191	4.20%
031.42	Phosphorus, ICP, Open vessel (%)	25	24	0.7342	0.0456	0.7340	0.0435	0.0111	5.93%	0.0180	4.19%
031.43	Phosphorus, ICP, Microwave (%)	20	19	0.7297	0.0361	0.7327	0.0219	0.0063	2.98%	0.0116	4.19%
031.44	Phosphorus, ICP, Dry ash (%)	1	1	0.7430							
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.6812	0.0075						

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031.53	Phosphorus, ICP-MS, Microwave (%)	4	4	0.7614	0.0228	0.7614	0.0228	0.0114	3.00%	0.0214	4.17%
031.99	Phosphorus, Miscellaneous (%)	4	4	0.7600	0.1016	0.7600	0.1016	0.0508	13.36%	0.0100	4.17%
032.02	Potassium, Flame Emission (%)	1	1	0.8250							
032.31	Potassium, AAS, Dry ash (%)	14	13	0.9152	0.0862	0.9132	0.0815	0.0283	8.93%	0.0099	4.05%
032.32	Potassium, AAS, Open vessel (%)	3	3	0.9100	0.1054	0.9100	0.1054	0.0608	11.58%	0.0400	4.06%
032.41	Potassium, ICP, Dry ash (%)	25	24	0.8809	0.0764	0.8830	0.0817	0.0209	9.25%	0.0198	4.08%
032.42	Potassium, ICP, Open vessel (%)	23	22	0.9614	0.0658	0.9558	0.0484	0.0129	5.07%	0.0308	4.03%
032.43	Potassium, ICP, Microwave (%)	18	17	0.9541	0.0467	0.9582	0.0366	0.0111	3.82%	0.0138	4.03%
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	0.7780							
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	0.8406	0.0925						
032.53	Potassium, ICP-MS, Microwave (%)	4	4	0.9651	0.0426	0.9651	0.0426	0.0213	4.42%	0.0156	4.02%
032.99	Potassium, Miscellaneous (%)	4	4	0.9383	0.0760	0.9383	0.0760	0.0380	8.09%	0.0245	4.04%
033.00	Salt as chloride, Sol Cl (%)	24	23	1.126	0.0825	1.134	0.0709	0.0185	6.25%	0.0323	3.92%
033.01	Salt as chloride, Poten Cl (%)	28	27	1.196	0.0320	1.202	0.0205	0.0049	1.70%	0.0133	3.89%
033.03	Salt as chloride, Quantab (%)	6	6	1.069	0.1227	1.084	0.1017	0.0519	9.38%	0.0450	3.95%
033.05	Salt as chloride, Ion Sel Electrode (%)	1	1	0.6540							
033.99	Salt, Miscellaneous (%)	10	10	1.116	0.1363	1.119	0.1487	0.0588	13.29%	0.0139	3.93%
034.01	Selenium, Fluor (mg / kg (ppm))	1	1	2.065							
034.04	Selenium, AA, Hydride (mg / kg (ppm))	4	4	1.708	0.5970	1.708	0.5970	0.2985	34.95%	0.0868	14.76%
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	2	2	2.055	0.0212						
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	2	2	3.003	0.4632						
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	1	1	2.464							
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	2.045	0.2584	2.045	0.2584	0.1492	12.64%	0.1233	14.36%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	5	4	2.248	0.0267	2.248	0.0267	0.0133	1.19%	0.2143	14.16%
035.01	Sodium, Ion-selective electrode (%)	1	1	0.4115							
035.02	Sodium, Em Spect (%)	1	1	0.4300							
035.05	Sodium, Flame Emission (%)	3	3	0.4525	0.0066	0.4525	0.0066	0.0038	1.46%	0.0103	4.51%
035.31	Sodium, AAS, Dry ash (%)	17	17	0.4628	0.0854	0.4421	0.0352	0.0107	7.96%	0.0108	4.52%
035.32	Sodium, AAS, Open vessel (%)	1	1	0.4050							
035.41	Sodium, ICP, Dry ash (%)	25	24	0.4154	0.0390	0.4159	0.0406	0.0104	9.77%	0.0140	4.56%
035.42	Sodium, ICP, Open vessel (%)	18	17	0.4510	0.0212	0.4524	0.0167	0.0051	3.68%	0.0114	4.51%
035.43	Sodium, ICP, Microwave (%)	17	16	0.4565	0.0212	0.4565	0.0240	0.0075	5.25%	0.0055	4.50%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.3685							
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.4358	0.0102						
035.53	Sodium, ICP-MS, Microwave (%)	4	4	0.4529	0.0366	0.4529	0.0366	0.0183	8.08%	0.0239	4.51%
035.99	Sodium, Miscellaneous (%)	4	3	0.4433	0.0202	0.4433	0.0202	0.0117	4.56%	0.0067	4.52%
036.04	Sulfur, LECO (%)	4	3	0.3467	0.0104	0.3467	0.0104	0.0060	3.00%	0.0133	4.69%
036.42	Sulfur, ICP, Open vessel (%)	20	19	0.3332	0.0386	0.3358	0.0237	0.0068	7.05%	0.0080	4.71%
036.43	Sulfur, ICP, Microwave (%)	12	12	0.3476	0.0191	0.3476	0.0216	0.0078	6.21%	0.0088	4.69%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.3199	0.0114						

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036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.3795							
036.99	Sulfur, Miscellaneous (%)	1	1	0.3500							
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	14	13	361.6	19.40	363.5	17.83	6.182	4.91%	5.722	6.59%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	3	3	344.7	99.27	344.7	99.27	57.32	28.80%	14.20	6.64%
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	5	4	381.0	21.31	381.0	21.31	10.66	5.59%	8.167	6.54%
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	21	20	361.1	25.43	363.2	23.26	6.502	6.40%	9.784	6.59%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	22	22	389.7	32.50	388.2	32.95	8.782	8.49%	12.53	6.52%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	19	19	393.7	19.86	394.4	20.89	5.991	5.30%	8.426	6.51%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	1	1	322.6							
037.51	Zinc, ICP-MS, Dry ash (mg / kg (ppm))	1	1	336.6							
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	2	2	321.8	55.47						
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	4	4	389.0	16.06	389.0	16.06	8.030	4.13%	10.27	6.52%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	4	4	378.1	37.16	378.1	37.16	18.58	9.83%	11.25	6.55%
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	3	3	1.987	0.5222	1.987	0.5222	0.3015	26.28%	0.2800	14.43%
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	4	2.425	0.3461	2.425	0.3461	0.1731	14.28%	0.1873	14.00%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	5	5	2.030	0.2399	2.030	0.2399	0.1073	11.82%	0.1105	14.38%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	2	2	1.325	0.1061						
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	3	3	2.022	0.5225	2.022	0.5225	0.3017	25.84%	0.0883	14.39%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	8.615							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	2	2	8.375	0.1149						
041.53	Vanadium, ICP-MS, Microwave (mg / kg (ppm))	1	1	0.9400							
042.00	Chloride, Titrimetric (%)	2	2	0.7505	0.0134						
042.02	Chloride, Ion Chromatography (%)	1	1	6.575							
042.99	Chloride, Miscellaneous (%)	2	2	0.6850	0.0000						
099.01	Menadione (form), LC (mg / kg (ppm))	1	1	10.80							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	99.05							
102.02	Niacin, LC (mg / kg (ppm))	2	2	66.48	2.224						
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	12.85							
103.02	Pantothenic Acid, LC (mg / kg (ppm))	1	1	13.76							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	1	1	8.680							
104.03	Riboflavin, LC (mg / kg (ppm))	3	3	10.13	2.010	10.13	2.010	1.161	19.86%	0.6500	11.29%
105.00	Thiamine, LC (mg / kg (ppm))	1	1	3.845							
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	4.655							
106.00	Vitamin A, Color (KU / kg)	1	1	11.00							
106.01	Vitamin A, UV (KU / kg)	1	1	16.05							
106.02	Vitamin A, LC (KU / kg)	18	17	18.07	6.554	17.83	6.080	1.843	34.10%	2.276	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	34.95							
108.02	Vitamin D3, LC (KU / kg)	4	4	5.023	2.087	5.023	2.087	1.044	41.55%	0.4360	
109.02	Vitamin E, LC (IU / kg)	14	14	96.87	30.06	102.0	12.00	4.010	11.77%	5.288	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	91.50							

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112.01	Pyridoxine, LC (µg / g)	3	3	3.062	1.377	3.062	1.377	0.7948	44.97%	0.3233	
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	0.7470							
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.6250							
114.99	Biotin, Miscellaneous (mg / kg (ppm))	1		2.500							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	9.155							
120.00	Alanine, Post-col Ninhydrin Der (%)	22	21	0.9362	0.0420	0.9346	0.0357	0.0097	3.81%	0.0120	4.04%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.9605							
120.05	Alanine, Pre-col AQC Der (%)	6	6	0.9489	0.0301	0.9489	0.0341	0.0174	3.60%	0.0249	4.03%
120.99	Alanine, Miscellaneous (%)	1	1	0.7300							
121.00	Arginine, Post-col Ninhydrin Der (%)	22	21	1.077	0.0396	1.079	0.0403	0.0110	3.74%	0.0157	3.95%
121.02	Arginine, Post-col OPA Der (%)	1	1	1.078							
121.05	Arginine, Pre-col AQC Der (%)	5	4	1.031	0.2122	1.031	0.2122	0.1061	20.58%	0.0053	3.98%
121.99	Arginine, Miscellaneous (%)	1	1	0.9550							
122.00	Aspartic, Post-col Ninhydrin Der (%)	22	21	1.508	0.0468	1.513	0.0395	0.0108	2.61%	0.0189	3.76%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.544							
122.05	Aspartic, Pre-col AQC Der (%)	6	6	1.595	0.1051	1.595	0.1192	0.0608	7.48%	0.0260	3.73%
122.99	Aspartic, Miscellaneous (%)	1	1	1.515							
124.00	Cysteine/Cystine, PAO Post-col Ninhytri (%)	22	21	0.2832	0.0253	0.2817	0.0202	0.0055	7.18%	0.0057	4.84%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.2965							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	5	4	0.2584	0.0729	0.2584	0.0729	0.0421	28.20%	0.0046	4.90%
124.99	Cysteine/Cystine, Miscellaneous (%)	1	1	0.2300							
125.00	Glutamic, Post-col Ninhydrin Der (%)	22	21	2.859	0.1048	2.870	0.0800	0.0218	2.79%	0.0316	3.41%
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.844							
125.05	Glutamic, Pre-col AQC Der (%)	6	6	3.113	0.2555	3.121	0.2712	0.1384	8.69%	0.0860	3.37%
125.99	Glutamic, Miscellaneous (%)	1	1	2.900							
126.00	Glycine, Post-col Ninhydrin Der (%)	22	21	0.8486	0.0226	0.8525	0.0144	0.0039	1.69%	0.0096	4.10%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.8570							
126.05	Glycine, Pre-col AQC Der (%)	6	5	0.9038	0.0535	0.9038	0.0535	0.0299	5.92%	0.0204	4.06%
126.99	Glycine, Miscellaneous (%)	1	1	0.3500							
127.00	Histidine, Post-col Ninhydrin Der (%)	22	21	0.4618	0.0265	0.4626	0.0218	0.0059	4.71%	0.0065	4.49%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.4635							
127.05	Histidine, Pre-col AQC Der (%)	6	6	0.4605	0.0573	0.4605	0.0650	0.0332	14.12%	0.0063	4.49%
127.99	Histidine, Miscellaneous (%)	1	1	0.3500							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	22	21	0.6331	0.0465	0.6393	0.0359	0.0098	5.62%	0.0101	4.28%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.6570							
128.05	Isoleucine, Pre-col AQC Der (%)	6	6	0.6786	0.0471	0.6786	0.0534	0.0272	7.87%	0.0104	4.24%
128.99	Isoleucine, Miscellaneous (%)	1	1	0.5550							
129.00	Leucine, Post-col Ninhydrin Der (%)	22	21	1.355	0.0335	1.359	0.0230	0.0063	1.69%	0.0189	3.82%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.372							
129.05	Leucine, Pre-col AQC Der (%)	6	6	1.406	0.0603	1.405	0.0657	0.0335	4.68%	0.0181	3.80%

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129.99	Leucine, Miscellaneous (%)	1	1	0.9950							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	21	0.8048	0.0325	0.8049	0.0297	0.0081	3.69%	0.0130	4.13%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.8985							
130.05	L-Lysine, Pre-col AQC Der (%)	6	6	0.8567	0.0768	0.8513	0.0741	0.0378	8.70%	0.0163	4.10%
130.99	L-Lysine, Miscellaneous (%)	1	1	0.6750							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	22	21	0.2562	0.0172	0.2591	0.0104	0.0028	4.02%	0.0053	4.90%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2585							
131.05	Methionine, PAO Pre-col AQC Der (%)	6	5	0.2329	0.0738	0.2329	0.0738	0.0413	31.69%	0.0030	4.98%
131.99	Methionine, Miscellaneous (%)	1	1	0.3100							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	22	21	0.7781	0.0289	0.7808	0.0239	0.0065	3.07%	0.0105	4.15%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.7925							
132.05	Phenylalanine, Pre-col AQC Der (%)	6	6	0.7740	0.0663	0.7740	0.0752	0.0384	9.71%	0.0156	4.16%
132.99	Phenylalanine, Miscellaneous (%)	1	1	0.7350							
133.00	Proline, Post-col Ninhydrin Der (%)	22	21	1.018	0.0395	1.016	0.0393	0.0107	3.87%	0.0270	3.99%
133.05	Proline, Pre-col AQC Der (%)	6	6	1.110	0.0874	1.098	0.0690	0.0352	6.28%	0.0255	3.94%
133.99	Proline, Miscellaneous (%)	1	1	0.9700							
134.00	Serine, Post-col Ninhydrin Der (%)	22	21	0.8416	0.0419	0.8442	0.0337	0.0092	4.00%	0.0210	4.10%
134.02	Serine, Post-col OPA Der (%)	1	1	0.7945							
134.05	Serine, Pre-col AQC Der (%)	6	6	0.8920	0.0488	0.8920	0.0553	0.0282	6.20%	0.0189	4.07%
134.99	Serine, Miscellaneous (%)	1	1	0.8200							
135.00	Threonine, Post-col Ninhydrin Der (%)	22	21	0.6525	0.0243	0.6501	0.0201	0.0055	3.09%	0.0093	4.27%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.6645							
135.05	Threonine, Pre-col AQC Der (%)	6	6	0.6776	0.0516	0.6776	0.0585	0.0299	8.63%	0.0162	4.24%
135.99	Threonine, Miscellaneous (%)	1	1	0.6000							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	8	7	0.2049	0.0306	0.2049	0.0346	0.0164	16.90%	0.0068	5.08%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.1940	0.0094	0.1940	0.0094	0.0054	4.83%	0.0020	5.12%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.1930							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	5	0.2143	0.0166	0.2143	0.0166	0.0074	7.75%	0.0029	5.04%
136.05	Tryptophan, Pre-col AQC Der (%)	1	1	0.1686							
136.99	Tryptophan, Miscellaneous (%)	2	2	0.3000	0.1980						
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	16	0.5316	0.0574	0.5349	0.0569	0.0178	10.64%	0.0118	4.39%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.5275							
137.05	Tyrosine, Pre-col AQC Der (%)	6	6	0.5982	0.1030	0.5982	0.1168	0.0596	19.53%	0.0149	4.32%
137.99	Tyrosine, Miscellaneous (%)	1	1	0.4400							
138.00	Valine, Post-col Ninhydrin Der (%)	22	21	0.8345	0.0556	0.8404	0.0444	0.0121	5.28%	0.0147	4.11%
138.02	Valine, Post-col OPA Der (%)	1	1	0.8895							
138.05	Valine, Pre-col AQC Der (%)	6	6	0.9058	0.0680	0.9058	0.0771	0.0394	8.52%	0.0226	4.06%
138.99	Valine, Miscellaneous (%)	1	1	0.7000							
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.0890	0.0509						
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							



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139.05	Taurine, Pre-col AQC Der (%)	1		0.0300							
160.99	Fructose, Miscellaneous (%)	3	3	0.3513	0.0931	0.3513	0.0931	0.0538	26.51%	0.0147	4.68%
161.99	Galactose, Miscellaneous (%)	1		0.0000							
162.99	Glucose, Miscellaneous (%)	3	3	0.3070	0.1603	0.3070	0.1603	0.0926	52.22%	0.0133	4.78%
163.99	Lactose, Miscellaneous (%)	3									
164.99	Maltose, Miscellaneous (%)	2	2	0.7758	0.2747						
165.99	Sucrose, Miscellaneous (%)	3	3	1.643	0.1116	1.643	0.1116	0.0644	6.80%	0.1343	3.71%
166.99	Raffinose, Miscellaneous (%)	2	2	0.2618	0.0237						
167.99	Stachyose, Miscellaneous (%)	2	2	0.7763	0.1573						
351.00	Chlortetracycline, Plate (mg/kg (ppm))	5	4	63.30	2.140	63.30	2.140	1.070	3.38%	2.430	8.57%
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	12	11	59.83	9.320	58.66	7.937	2.991	13.53%	2.959	8.67%
351.05	Chlortetracycline, LC-MS/MS (mg/kg (ppm))	4	3	53.09	1.574	53.09	1.574	0.9085	2.96%	4.777	8.80%
354.01	Decoquinat, LC (UV or FL) (mg/kg (ppm))	9	9	29.70	1.489	29.70	1.688	0.7035	5.68%	1.297	9.60%
354.02	Decoquinat, LC (mg/kg (ppm))	3	3	29.58	0.6602	29.58	0.6602	0.4668	2.23%	0.1000	9.61%
354.03	Decoquinat, LC-MS (mg/kg (ppm))	1	1	30.00							
354.04	Decoquinat, LC-MS/MS (mg/kg (ppm))	4	3	27.39	2.264	27.39	2.264	1.307	8.26%	1.773	9.72%
361.02	Lasalocid Sodium, LC (mg/kg (ppm))	6	6	51.92	2.707	51.92	3.069	1.566	5.91%	1.972	8.83%
361.03	Lasalocid Sodium, LC (UV or FL) (mg/kg (ppm))	10	10	52.39	4.411	52.39	5.002	1.977	9.55%	1.505	8.82%
361.04	Lasalocid Sodium, LC-MS (mg/kg (ppm))	1	1	65.45							
361.05	Lasalocid Sodium, LC-MS/MS (mg/kg (ppm))	5	4	45.53	3.633	45.53	3.633	1.817	7.98%	2.663	9.00%
365.05	Monensin, LC-MS/MS (mg/kg (ppm))	2	2	3.278	0.0389						
382.00	Sulfamethazine, Spectrophotometer (mg/kg (ppm))	1	1	69.93							
382.01	Sulfamethazine, LC (mg/kg (ppm))	3	3	76.43	36.03	76.43	36.03	20.80	47.14%	8.467	8.33%
382.02	Sulfamethazine, LC-PCD (mg/kg (ppm))	2	2	52.85	30.19						
382.04	Sulfamethazine, LC-MS/MS (mg/kg (ppm))	2	2	75.40	18.22						
382.99	Sulfamethazine, Miscellaneous (mg/kg (ppm))	1	1	98.88							
400.01	Water Activity, Aqualab chilled mirror (Units)	6	6	0.5504	0.0248	0.5504	0.0282	0.0144	5.12%	0.0034	
400.99	Water Activity, Miscellaneous (Units)	3	3	0.5588	0.0102	0.5588	0.0102	0.0059	1.83%	0.0023	
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	15.07							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	1	1	0.1590							
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.1810	0.0312	0.1810	0.0312	0.0180	17.23%	0.0047	20.69%
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	4	3	0.2139	0.0364	0.2139	0.0364	0.0210	17.02%	0.0132	20.18%
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	1	1	0.0815							
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	1	1	0.0915							
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.0957	0.0168	0.0957	0.0168	0.0097	17.53%	0.0140	22.00%
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.0938	0.0057	0.0938	0.0057	0.0029	6.12%	0.0031	22.00%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	1	1	11.67							
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	4	4	16.37	3.837	16.37	3.837	1.918	23.43%	0.9763	10.50%
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	2	2	13.94	7.182						
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	6.875							

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
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	4	3	14.91	6.599	14.91	6.599	3.810	44.26%	1.275	10.65%
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	1		0.0500							
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.1412	0.0380	0.1412	0.0380	0.0220	26.94%	0.0403	21.48%
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	4	3	0.1709	0.0209	0.1709	0.0209	0.0121	12.24%	0.0108	20.87%
529.99	Mercury, Miscellaneous (µg / kg (ppb))	1	1	21.50							
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	1	1	6.295							
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	3.180							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	3	3	6.371	2.440	6.371	2.440	1.725	38.30%	1.953	12.11%
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0000							
704.00	Caproic Acid (6:0), Miscellaneous GC (%)	1		0.0000							
706.01	Caprylic acid (8:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
708.01	Capric acid (10:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
710.01	Lauric Acid (12:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3	1								
714.01	Myristic Acid (14:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0340							
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	3	2	0.1332	0.1723	0.1332	0.1723			0.0254	
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.6945							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	3	3	5.868	8.952	5.868	8.952	6.330	152.57%	0.0201	
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0380							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	4	3	0.2121	0.3273	0.2121	0.3273	0.2314	154.29%	0.0213	
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.1010							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	3	3	1.190	1.827	1.190	1.827	1.292	153.53%	0.0272	
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.9055							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	3	3	9.855	15.37	9.855	15.37	10.87	155.99%	0.2012	
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	1.640							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	4	3	1.667	0.1373	1.667	0.1373	0.0792	8.23%	0.0156	
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis	1	1	0.1015							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	4	3	0.1585	0.0103	0.1585	0.0103	0.0060	6.51%	0.0029	
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0405							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	3	2	0.1895	0.2483	0.1895	0.2483			0.0053	
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	1	0.0173							
736.01	Arachidonic Acid (5c,8c,11c,14c-20:4), Direct Methylation by Alkali Hydrolysis	1		0.0000							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1		0.0000							
738.01	Mead Acid (11c,14c,17c-20:3), Direct Methylation by Alkali Hydrolysis & GC (%)	1		0.0000							
740.01	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Direct Methylation by Al	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))	3	2	0.1223	0.1594	0.1223	0.1594			0.0053	
744.01	Erucic Acid (13c-22:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	2	1	0.1000							

Test Material Code # 201927

(Precision Report Follows)

Issue Date : 08/31/2019

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT #fp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
746.01	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Direct Methylation	1		0.0000							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (%)	2		0.0000							
748.99	Lignoceric Acid (24:0), Miscellaneous (%) (w/w)	2	2	0.1373	0.1736						
750.01	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Direct Methylation	1		0.0000							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (%)	2		0.0000							
752.01	Nervonic Acid (24:1) isomers, Direct Methylation by Alkali Hydrolysis & GC (%)	1		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-#	1	1	0.1550							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (%) (w/w)	2	2	0.1600	0.0141						
756.01	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Direct Methylation by Alkali	1	1	1.580							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (%) (w/w)	2	2	1.670	0.1909						
758.99	Total Saturated Fatty Acids, Miscellaneous (%) (w/w)	2	2	10.88	14.05						
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (%) (w/w)	2	2	14.96	19.71						
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (%) (w/w)	2	2	25.42	33.55						
770.99	Total Fat (equivalent to NLEA), Miscellaneous (%) (w/w)	1	1	3.850							
772.99	Total Fatty Acids, Miscellaneous (%) (w/w)	2	2	3.696	0.0220						

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: 90**

**Beef Feed, Medicated**

**Method Precision Report**

**# Labs Reporting: 197**

**Test Material Code # 201927**

**Issue Date : 08/31/2019**

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 (%)	50	43	8.861	0.4289	0.3575	0.0565	0.3620	4.02%	0.64%	4.07%	6.411
001.99	Loss on Drying, Miscellaneous (%)	23	20	8.812	0.4874	0.3431	0.1031	0.3582	3.87%	1.16%	4.04%	3.475
002.01	Protein, Crude, Auto Kjel-Foss (%)	13	12	17.85	0.3389	0.1043	0.1040	0.1473	0.59%	0.59%	0.83%	1.416
002.05	Protein, Crude, Copper, Boric Acid (%)	33	29	17.74	0.2047	0.2056	0.0535	0.2125	1.16%	0.30%	1.20%	3.975
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	130	117	17.90	1.079	0.3413	0.1259	0.3638	1.90%	0.70%	2.02%	2.889
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	11	11	3.546	0.2391	0.2229	0.1221	0.2542	6.29%	3.44%	7.17%	2.082
003.06	Fat, Crude, Pet Ether (%)	18	16	3.613	0.3164	0.2073	0.0583	0.2153	5.84%	1.64%	6.07%	3.695
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	16	15	3.592	0.3052	0.2712	0.0775	0.2820	7.63%	2.18%	7.93%	3.639
003.10	Fat, Crude, Randall, Pet Ether (%)	32	29	3.257	0.2891	0.2580	0.0599	0.2648	7.98%	1.85%	8.19%	4.424
003.14	Fat, Crude, Ankom (%)	53	49	3.043	0.5108	0.3768	0.1163	0.3944	12.46%	3.84%	13.04%	3.391
004.00	Fiber, Crude, Asbestos Free (%)	15	14	11.97	0.9792	0.4890	0.3159	0.5822	4.16%	2.69%	4.95%	1.843
004.06	Fiber, Crude, Fibertec (%)	19	18	11.92	0.5990	0.5943	0.1062	0.6037	4.98%	0.89%	5.06%	5.686
004.07	Fiber, Crude, ANKOM (%)	71	66	12.10	1.232	0.9447	0.2359	0.9737	7.81%	1.95%	8.05%	4.127
005.00	Ash, 2h @ 600°C (%)	96	90	12.26	0.5342	0.4761	0.1292	0.4933	3.87%	1.05%	4.01%	3.819
005.05	Ash, 3h @ 550°C (%)	32	29	12.68	0.4590	0.2700	0.0666	0.2781	2.11%	0.52%	2.18%	4.174
008.02	Fiber, Acid Detergent, Crucible (%)	14	14	16.17	1.111	1.094	0.2709	1.127	6.76%	1.67%	6.97%	4.160
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	43	40	16.04	1.436	1.266	0.2991	1.301	7.95%	1.88%	8.16%	4.350
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	13	10	29.45	2.125	1.236	0.5541	1.354	4.10%	1.84%	4.50%	2.444
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	40	28.74	1.619	1.611	0.3824	1.656	5.60%	1.33%	5.76%	4.330
010.99	Moisture, Miscellaneous (%)	19	16	17.65	25.69	0.4539	0.1054	0.4659	5.00%	1.16%	5.13%	4.421
011.01	Loss on Drying, 135°C 2hr (%)	65	60	9.764	0.4519	0.4047	0.0999	0.4169	4.14%	1.02%	4.27%	4.172
012.00	Starch, Polarimetric (Ewers) (%)	15	15	17.07	0.4167	0.4118	0.0898	0.4215	2.41%	0.53%	2.47%	4.696
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	11	15.55	2.176	2.225	0.3429	2.251	14.20%	2.19%	14.37%	6.564
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	15	4.472	0.7687	0.6022	0.1380	0.6178	13.88%	3.18%	14.24%	4.478
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	15	15	4.658	0.5685	0.5398	0.2523	0.5958	11.59%	5.42%	12.79%	2.362
019.00	Calcium, Ox-Mn04 Vol. (%)	11	11	2.953	0.1275	0.1253	0.0332	0.1296	4.24%	1.12%	4.39%	3.908
019.08	Calcium, EDTA (%)	9	8	2.914	0.0673	0.0663	0.0163	0.0683	2.28%	0.56%	2.34%	4.190
019.31	Calcium, AAS, Dry ash (%)	23	22	2.992	0.2283	0.2235	0.0442	0.2278	7.44%	1.47%	7.58%	5.158
019.41	Calcium, ICP, Dry ash (%)	29	26	2.853	0.1567	0.1437	0.0561	0.1542	5.01%	1.96%	5.38%	2.748
019.42	Calcium, ICP, Open vessel (%)	24	23	2.932	0.2325	0.1709	0.0846	0.1907	5.77%	2.86%	6.44%	2.254
019.43	Calcium, ICP, Microwave (%)	21	19	2.883	0.1417	0.1306	0.0377	0.1359	4.55%	1.31%	4.74%	3.604
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	15	15	64.84	8.155	8.046	1.880	8.263	12.41%	2.90%	12.74%	4.396
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	22	22	63.84	10.53	10.32	2.960	10.74	16.17%	4.64%	16.82%	3.627

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
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	23	21	87.03	12.61	5.619	2.645	6.211	6.67%	3.14%	7.37%	2.348
022.43	Copper, ICP, Microwave (mg / kg (ppm))	19	16	83.20	4.670	3.321	1.876	3.814	4.04%	2.28%	4.64%	2.034
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	18	16	410.9	38.83	30.58	6.931	31.35	7.59%	1.72%	7.78%	4.524
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	24	22	416.6	45.07	42.22	11.22	43.69	10.11%	2.69%	10.46%	3.894
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	18	15	385.6	90.92	46.70	10.73	47.92	11.31%	2.60%	11.60%	4.464
025.43	Iron, ICP, Microwave (mg / kg (ppm))	18	16	424.0	30.11	29.97	9.397	31.41	7.05%	2.21%	7.39%	3.343
027.31	Magnesium, AAS, Dry ash (%)	15	13	0.4068	0.0180	0.0116	0.0098	0.0152	2.89%	2.43%	3.77%	1.551
027.41	Magnesium, ICP, Dry ash (%)	23	22	0.3984	0.0198	0.0189	0.0083	0.0206	4.75%	2.08%	5.18%	2.491
027.42	Magnesium, ICP, Open vessel (%)	24	21	0.4080	0.0243	0.0192	0.0074	0.0206	4.69%	1.82%	5.03%	2.767
027.43	Magnesium, ICP, Microwave (%)	19	18	0.4084	0.0179	0.0169	0.0082	0.0188	4.15%	2.01%	4.61%	2.289
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	15	13	200.9	33.33	17.60	3.372	17.92	9.11%	1.74%	9.28%	5.316
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	20	189.1	12.20	11.74	4.679	12.64	6.21%	2.47%	6.69%	2.702
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	23	21	204.4	17.03	10.39	5.085	11.56	5.09%	2.49%	5.66%	2.274
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	18	16	210.4	16.59	12.50	5.915	13.83	6.01%	2.85%	6.65%	2.338
031.01	Phosphorus, Photometric (%)	44	42	0.7243	0.0354	0.0274	0.0119	0.0298	3.76%	1.63%	4.10%	2.512
031.41	Phosphorus, ICP, Dry ash (%)	25	24	0.7228	0.0495	0.0481	0.0165	0.0508	6.65%	2.28%	7.03%	3.084
031.42	Phosphorus, ICP, Open vessel (%)	25	23	0.7342	0.0456	0.0448	0.0152	0.0473	6.08%	2.07%	6.43%	3.106
031.43	Phosphorus, ICP, Microwave (%)	20	17	0.7297	0.0361	0.0218	0.0083	0.0233	2.96%	1.12%	3.16%	2.820
032.31	Potassium, AAS, Dry ash (%)	14	12	0.9152	0.0862	0.0899	0.0069	0.0902	9.82%	0.75%	9.85%	13.16
032.41	Potassium, ICP, Dry ash (%)	25	24	0.8809	0.0764	0.0754	0.0176	0.0774	8.56%	1.99%	8.79%	4.409
032.42	Potassium, ICP, Open vessel (%)	23	21	0.9614	0.0658	0.0395	0.0273	0.0480	4.15%	2.87%	5.05%	1.758
032.43	Potassium, ICP, Microwave (%)	18	15	0.9541	0.0467	0.0277	0.0116	0.0301	2.87%	1.20%	3.11%	2.594
033.00	Salt as chloride, Sol Cl (%)	24	22	1.126	0.0825	0.0609	0.0297	0.0677	5.36%	2.61%	5.96%	2.284
033.01	Salt as chloride, Poten Cl (%)	28	24	1.196	0.0320	0.0180	0.0125	0.0219	1.50%	1.04%	1.82%	1.758
033.99	Salt, Miscellaneous (%)	10	10	1.116	0.1363	0.1360	0.0127	0.1366	12.18%	1.14%	12.24%	10.72
035.31	Sodium, AAS, Dry ash (%)	17	15	0.4628	0.0854	0.0492	0.0093	0.0501	11.00%	2.08%	11.19%	5.391
035.41	Sodium, ICP, Dry ash (%)	25	24	0.4154	0.0390	0.0379	0.0129	0.0400	9.13%	3.10%	9.64%	3.114
035.42	Sodium, ICP, Open vessel (%)	18	15	0.4510	0.0212	0.0157	0.0077	0.0175	3.46%	1.70%	3.86%	2.266
035.43	Sodium, ICP, Microwave (%)	17	15	0.4565	0.0212	0.0196	0.0045	0.0201	4.31%	0.99%	4.43%	4.479
036.42	Sulfur, ICP, Open vessel (%)	20	17	0.3332	0.0386	0.0243	0.0060	0.0251	7.12%	1.76%	7.33%	4.173
036.43	Sulfur, ICP, Microwave (%)	12	11	0.3476	0.0191	0.0162	0.0065	0.0175	4.64%	1.86%	4.99%	2.691
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	14	13	361.6	19.40	19.04	5.261	19.76	5.27%	1.45%	5.46%	3.755
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	21	18	361.1	25.43	19.61	7.770	21.09	5.38%	2.13%	5.79%	2.715
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	22	20	389.7	32.50	27.57	9.095	29.03	7.14%	2.36%	7.52%	3.193
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	19	19	393.7	19.86	19.15	7.447	20.55	4.86%	1.89%	5.22%	2.759
106.02	Vitamin A, LC (KU / kg)	18	17	18.07	6.554	6.403	1.978	6.701	35.43%	10.95%	37.08%	3.387
109.02	Vitamin E, LC (IU / kg)	14	13	96.87	30.06	11.16	5.314	12.36	10.69%	5.09%	11.85%	2.325
120.00	Alanine, Post-col Ninhydrin Der (%)	22	19	0.9362	0.0420	0.0327	0.0087	0.0338	3.52%	0.94%	3.64%	3.877
121.00	Arginine, Post-col Ninhydrin Der (%)	22	19	1.077	0.0396	0.0376	0.0100	0.0389	3.48%	0.92%	3.60%	3.899
122.00	Aspartic, Post-col Ninhydrin Der (%)	22	20	1.508	0.0468	0.0381	0.0171	0.0418	2.52%	1.13%	2.76%	2.445
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	22	19	0.2832	0.0253	0.0192	0.0042	0.0197	6.90%	1.51%	7.06%	4.690
125.00	Glutamic, Post-col Ninhydrin Der (%)	22	19	2.859	0.1048	0.0622	0.0241	0.0668	2.17%	0.84%	2.33%	2.765
126.00	Glycine, Post-col Ninhydrin Der (%)	22	21	0.8486	0.0226	0.0216	0.0094	0.0236	2.55%	1.11%	2.78%	2.503

Test Material Code # 201927

Issue Date : 08/31/2019

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
127.00	Histidine, Post-col Ninhydrin Der (%)	22	21	0.4618	0.0265	0.0261	0.0064	0.0269	5.65%	1.39%	5.82%	4.183
128.00	Isoleucine, Post-col Ninhydrin Der (%)	22	20	0.6331	0.0465	0.0342	0.0096	0.0355	5.35%	1.50%	5.55%	3.702
129.00	Leucine, Post-col Ninhydrin Der (%)	22	19	1.355	0.0335	0.0183	0.0165	0.0246	1.35%	1.22%	1.81%	1.491
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	20	0.8048	0.0325	0.0323	0.0097	0.0337	4.02%	1.21%	4.20%	3.463
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	22	18	0.2562	0.0172	0.0094	0.0034	0.0100	3.63%	1.31%	3.86%	2.952
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	22	20	0.7781	0.0289	0.0214	0.0086	0.0231	2.74%	1.09%	2.95%	2.696
133.00	Proline, Post-col Ninhydrin Der (%)	22	20	1.018	0.0395	0.0352	0.0221	0.0416	3.45%	2.16%	4.07%	1.882
134.00	Serine, Post-col Ninhydrin Der (%)	22	19	0.8416	0.0419	0.0264	0.0153	0.0306	3.13%	1.81%	3.62%	1.997
135.00	Threonine, Post-col Ninhydrin Der (%)	22	20	0.6525	0.0243	0.0156	0.0088	0.0179	2.40%	1.36%	2.76%	2.034
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	15	0.5316	0.0574	0.0453	0.0133	0.0472	8.39%	2.45%	8.74%	3.564
138.00	Valine, Post-col Ninhydrin Der (%)	22	19	0.8345	0.0556	0.0350	0.0098	0.0364	4.13%	1.16%	4.29%	3.706
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	12	10	59.83	9.320	9.203	2.146	9.450	15.16%	3.53%	15.56%	4.404
354.01	Decoquinatate, LC (UV or FL) (mg/kg (ppm))	9	9	29.70	1.489	1.233	1.180	1.707	4.15%	3.97%	5.75%	1.446
361.03	Lasalocid Sodium, LC (UV or FL) (mg/kg (ppm))	10	9	52.39	4.411	4.554	1.070	4.678	8.66%	2.03%	8.89%	4.371

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