



AAFCO
Proficiency Testing Program



Animal Feed Scheme
Sheep Feed, Medicated
Test Material Code # 201929

Method Summary Report
(Precision Report Follows)

Labs Reporting: 196
Methods Reported: 385
Issue Date : 10/31/2019

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	1.300							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	4	3	8.703	0.2465	8.703	0.2465	0.1423	2.83%	0.0170	2.89%
001.03	Loss on Drying, Low temp. methods (%)	4	4	8.590	0.2857	8.590	0.2857	0.1428	3.33%	0.0400	2.89%
001.05	Loss on Drying, LECO (%)	3	3	8.298	0.2933	8.298	0.2933	0.1693	3.53%	0.0767	2.91%
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	53	51	8.425	0.4374	8.461	0.3168	0.0554	3.74%	0.0971	2.90%
001.99	Loss on Drying, Miscellaneous (%)	23	22	8.354	0.5019	8.390	0.3934	0.1049	4.69%	0.0809	2.90%
002.00	Protein, Crude, Crude (%)	1	1	13.56							
002.01	Protein, Crude, Auto Kjell-Foss (%)	16	14	13.24	0.5952	13.27	0.2542	0.0849	1.92%	0.0551	2.71%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	2	2	13.22	0.2755						
002.03	Protein, Crude, Hach Method (%)	1	1	12.71							
002.04	Protein, Crude, Copper Catalyst (%)	3	3	13.32	0.3367	13.32	0.3367	0.1944	2.53%	0.1400	2.71%
002.05	Protein, Crude, Copper, Boric Acid (%)	33	32	13.31	0.2581	13.29	0.2259	0.0499	1.70%	0.0818	2.71%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	126	125	13.55	0.5613	13.50	0.2930	0.0328	2.17%	0.1887	2.70%
002.08	Protein, Crude, Cu/Ti (%)	1	1	13.22							
002.11	Protein, Crude, NIR (%)	7	6	16.52	1.611	16.52	1.827	0.9325	11.06%	0.2098	2.46%
002.99	Protein, Crude, Miscellaneous (%)	1	1	15.54							
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	15	14	2.012	0.4702	2.007	0.4977	0.1663	24.80%	0.0886	3.60%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	3	3	1.746	0.5891	1.746	0.5891	0.3401	33.74%	0.1627	3.68%
003.06	Fat, Crude, Pet Ether (%)	18	18	1.941	0.4368	1.944	0.4897	0.1443	25.19%	0.0776	3.62%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	12	12	1.901	0.4258	1.901	0.4829	0.1742	25.39%	0.1093	3.63%
003.10	Fat, Crude, Randall, Pet Ether (%)	31	30	1.600	0.4467	1.558	0.3302	0.0754	21.19%	0.1145	3.74%
003.11	Fat, Crude, NIR (%)	7	7	2.854	0.6929	2.851	0.7796	0.3683	27.34%	0.0265	3.42%
003.12	Fat, Crude, Hexane Ext (%)	3	3	6.423	7.915	6.423	7.915	4.569	123.22%	0.2600	3.02%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	8	1.664	0.3709	1.664	0.4205	0.1859	25.28%	0.0875	3.70%
003.14	Fat, Crude, Ankom (%)	52	51	1.525	0.3622	1.497	0.2623	0.0459	17.53%	0.1197	3.76%
003.99	Fat, Crude, Miscellaneous (%)	1	1	1.790							
004.00	Fiber, Crude, Asbestos Free (%)	14	14	15.18	0.7833	15.21	0.6595	0.2203	4.33%	0.4125	2.56%
004.01	Fiber, Crude, Sing Filt (%)	1	1	12.65							
004.03	Fiber, Crude, Fritted Glass (%)	5	5	14.60	1.744	14.60	1.744	0.7800	11.95%	0.4780	2.62%
004.06	Fiber, Crude, Fibertec (%)	22	22	15.02	1.389	15.02	0.8865	0.2363	5.90%	0.1361	2.58%

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
004.07	Fiber, Crude, ANKOM (%)	68	66	15.26	1.784	15.20	1.442	0.2218	9.48%	0.3556	2.56%
004.11	Fiber, Crude, NIR (%)	6	6	13.97	0.9078	13.97	1.029	0.5253	7.37%	0.4790	2.68%
004.99	Fiber, Crude, Miscellaneous (%)	3	3	13.33	0.5169	13.33	0.5169	0.2984	3.88%	0.2800	2.71%
005.00	Ash, 2h @ 600°C (%)	101	99	16.03	0.4735	16.04	0.4588	0.0576	2.86%	0.1998	2.50%
005.02	Ash, LECO (%)	1	1	15.83							
005.03	Ash, Microwave furnace (%)	1	1	16.75							
005.05	Ash, 3h @ 550°C (%)	33	33	16.51	0.6386	16.42	0.4455	0.0969	2.71%	0.1669	2.47%
005.11	Ash, NIR (%)	4	4	10.32	3.105	10.32	3.105	1.552	30.09%	0.4557	2.82%
005.99	Ash, Miscellaneous (%)	8	7	16.68	0.3460	16.61	0.2306	0.1089	1.39%	0.2086	2.45%
006.00	Total Sugars, As sucrose (%)	2	2	3.994	0.8613						
006.03	Total Sugars, Invert w/o Invsrn (%)	1	1	3.055							
006.99	Total Sugars, Miscellaneous (%)	3	3	4.143	0.1762	4.143	0.1762	0.1017	4.25%	0.2867	3.23%
008.02	Fiber, Acid Detergent, Crucible (%)	16	16	19.39	1.246	19.46	1.233	0.3852	6.33%	0.2585	2.27%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	20.80							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	45	44	19.18	1.348	19.28	1.230	0.2317	6.38%	0.3687	2.28%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	4	4	19.28	1.321	19.28	1.321	0.6605	6.85%	1.110	2.28%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	2	2	35.59	4.006						
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	15	15	36.30	2.494	36.28	2.623	0.8464	7.23%	0.4918	1.66%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	44	42	34.53	1.870	34.56	1.386	0.2673	4.01%	0.4389	1.70%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	2	2	35.22	3.401						
010.03	Moisture, Karl-Fischer (%)	2	2	8.833	0.6470						
010.11	Moisture, NIR (%)	4	4	9.390	0.4793	9.390	0.4793	0.2396	5.10%	0.0832	2.86%
010.99	Moisture, Miscellaneous (%)	13	13	8.823	0.7917	8.751	0.5468	0.1896	6.25%	0.1046	2.89%
011.01	Loss on Drying, 135°C 2hr (%)	69	68	9.259	0.4120	9.276	0.3933	0.0596	4.24%	0.1147	2.86%
011.02	Loss on Drying, 130°C for 2 hours (%)	1	1	9.095							
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	9.388	0.3359						
012.00	Starch, Polarimetric (Ewers) (%)	17	16	13.70	0.6998	13.66	0.6155	0.1924	4.51%	0.2246	2.70%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	11	13.53	2.319	13.29	1.025	0.3861	7.71%	0.3688	2.71%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	6	6	13.15	1.033	13.15	1.171	0.5975	8.90%	0.4796	2.71%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	5	12.31	0.8393	12.31	0.8393	0.3754	6.82%	0.2860	2.74%
012.11	Starch, NIR (%)	4	4	16.36	3.892	16.36	3.892	1.946	23.79%	0.4008	2.47%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	17	2.829	0.7090	2.874	0.6932	0.2101	24.12%	0.0917	3.41%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	17	3.358	0.4597	3.396	0.4344	0.1317	12.79%	0.1165	3.33%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	1.741							
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	5	5	2.624	0.3997	2.624	0.3997	0.1787	15.23%	0.0640	3.46%
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	2	2	2.802	0.4498						
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	6	6	3.213	0.5095	3.257	0.4715	0.2406	14.48%	0.2759	3.35%
013.99	Fat, Acid Pretreat, Pretreatment, Misc (%)	1	1	3.150							
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	5	5	265.6	22.17	265.6	22.17	9.912	8.34%	15.16	6.91%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	280.1							

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
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	8	8	250.3	21.74	250.3	24.66	10.90	9.85%	11.13	6.97%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	196.0							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	2	2	303.0	46.67						
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	5	5	6.481	3.048	6.481	3.048	1.363	47.03%	0.2861	12.07%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	5	4	6.746	0.4065	6.746	0.4065	0.2347	6.03%	0.2480	12.00%
017.43	Boron, ICP, Microwave (mg / kg (ppm))	7	6	8.280	0.8360	8.280	0.9480	0.4838	11.45%	0.3700	11.64%
017.44	Boron, ICP, Dry ash (mg / kg (ppm))	1	1	7.873							
017.53	Boron, ICP-MS, Microwave (mg / kg (ppm))	1	1	9.010							
019.00	Calcium, Ox-Mn04 Vol. (%)	10	10	3.229	0.1517	3.227	0.1672	0.0661	5.18%	0.0384	3.35%
019.02	Calcium, Hach Method (%)	2	2	3.102	0.1230						
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	2.965							
019.08	Calcium, EDTA (%)	11	11	3.138	0.3424	3.202	0.1970	0.0743	6.15%	0.0348	3.36%
019.31	Calcium, AAS, Dry ash (%)	25	24	3.273	0.2198	3.276	0.2259	0.0576	6.89%	0.0772	3.35%
019.32	Calcium, AAS, Open vessel (%)	2	2	3.993	0.8733						
019.33	Calcium, AAS, Microwave (%)	1	1	3.310							
019.41	Calcium, ICP, Dry ash (%)	35	35	3.233	0.2083	3.217	0.1908	0.0403	5.93%	0.0794	3.35%
019.42	Calcium, ICP, Open vessel (%)	21	21	3.232	0.2300	3.231	0.2155	0.0588	6.67%	0.0969	3.35%
019.43	Calcium, ICP, Microwave (%)	29	28	3.162	0.1917	3.174	0.1910	0.0451	6.02%	0.0852	3.36%
019.44	Calcium, ICP, Dry ash (%)	1	1	3.280							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	3.580							
019.52	Calcium, ICP-MS, Open vessel (%)	2	2	3.220	0.1621						
019.53	Calcium, ICP-MS, Microwave (%)	3	3	3.197	0.0633	3.197	0.0633	0.0366	1.98%	0.1667	3.36%
019.99	Calcium, Miscellaneous (%)	2	2	3.370	0.3889						
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	4	4	3.716	0.9378	3.716	0.9378	0.4689	25.24%	0.2275	13.13%
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	4	4	3.204	0.7162	3.204	0.7162	0.3581	22.35%	0.1108	13.43%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	4	4	2.822	0.3966	2.822	0.3966	0.1983	14.05%	0.0610	13.68%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	5	5	3.466	0.5250	3.466	0.5250	0.2348	15.15%	0.2324	13.27%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	1	1	2.685							
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	3	3	3.440	0.5501	3.440	0.5501	0.3890	15.99%	0.1579	13.28%
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	13	12	8.891	2.097	8.859	1.659	0.5986	18.72%	0.6225	11.52%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	3	3	31.49	39.43	31.49	39.43	22.76	125.21%	4.490	9.52%
022.34	Copper, AAS, Graphite furnace (mg / kg (ppm))	1	1	3.940							
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	25	24	8.070	1.978	7.950	1.956	0.4990	24.60%	0.8255	11.71%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	20	19	10.30	2.944	10.03	2.257	0.6474	22.51%	0.8868	11.31%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	24	23	9.210	1.604	9.089	1.335	0.3478	14.68%	0.3538	11.48%
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	1	1	8.640							
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	3	3	8.872	0.3775	8.872	0.3775	0.2179	4.26%	0.3900	11.52%
022.99	Copper, Miscellaneous (mg / kg (ppm))	3	3	6.975	1.637	6.975	1.637	0.9453	23.47%	0.4300	11.94%
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	15	14	593.0	208.2	619.2	173.6	57.99	28.03%	13.33	6.08%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	2	2	438.1	323.7						

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
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	24	24	651.7	67.75	657.9	61.35	15.65	9.33%	15.91	6.02%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	15	14	601.4	166.3	626.9	120.1	40.13	19.16%	8.973	6.07%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	20	18	666.8	50.11	666.7	51.64	15.21	7.75%	19.01	6.01%
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	1	1	559.6							
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	2	2	689.5	36.77						
025.99	Iron, Miscellaneous (mg / kg (ppm))	2	2	758.0	23.34						
027.31	Magnesium, AAS, Dry ash (%)	17	17	0.6849	0.0928	0.7010	0.0556	0.0168	7.93%	0.0105	4.22%
027.32	Magnesium, AAS, Open vessel (%)	2	2	0.7800	0.0778						
027.33	Magnesium, AAS, Microwave (%)	2	2	0.7992	0.0441						
027.41	Magnesium, ICP, Dry ash (%)	29	29	0.7103	0.0310	0.7101	0.0322	0.0075	4.53%	0.0130	4.21%
027.42	Magnesium, ICP, Open vessel (%)	20	20	0.7045	0.0450	0.7048	0.0470	0.0131	6.67%	0.0216	4.22%
027.43	Magnesium, ICP, Microwave (%)	25	25	0.6918	0.0416	0.6957	0.0355	0.0089	5.10%	0.0182	4.22%
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.7600							
027.52	Magnesium, ICP-MS, Open vessel (%)	2	2	0.6888	0.0392						
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.7235	0.0279	0.7235	0.0279	0.0161	3.85%	0.0110	4.20%
027.99	Magnesium, Miscellaneous (%)	2	2	0.7625	0.0672						
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	16	16	403.9	30.74	407.5	26.20	8.187	6.43%	6.552	6.47%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	3	3	329.8	156.2	329.8	156.2	110.5	47.37%	24.85	6.68%
028.34	Manganese, AAS, Dry ash (mg / kg (ppm))	1	1	184.6							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	27	26	389.7	37.21	392.7	28.68	7.031	7.30%	9.441	6.51%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	19	19	409.6	72.95	422.2	34.67	9.943	8.21%	10.64	6.44%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	24	23	408.5	27.33	408.9	27.06	7.054	6.62%	10.13	6.47%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	2	2	347.7	70.12						
028.51	Manganese, ICP-MS, Dry ash (mg / kg (ppm))	1	1	409.1							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	1	1	440.5							
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	4	4	416.1	10.29	416.1	10.29	5.146	2.47%	14.20	6.45%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	3	3	416.5	42.99	416.5	42.99	24.82	10.32%	29.00	6.45%
031.01	Phosphorus, Photometric (%)	42	41	1.181	0.0731	1.188	0.0492	0.0096	4.15%	0.0185	3.90%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	3	3	1.130	0.1341	1.130	0.1341	0.0774	11.87%	0.0447	3.93%
031.03	Phosphorus, Autoanalyzer (%)	3	3	1.237	0.0684	1.237	0.0684	0.0395	5.53%	0.0141	3.87%
031.06	Phosphorus, Hach Method (%)	1	1	0.9850							
031.41	Phosphorus, ICP, Dry ash (%)	31	31	1.185	0.0614	1.185	0.0623	0.0140	5.26%	0.0303	3.90%
031.42	Phosphorus, ICP, Open vessel (%)	21	20	1.180	0.0674	1.183	0.0688	0.0192	5.82%	0.0244	3.90%
031.43	Phosphorus, ICP, Microwave (%)	26	25	1.203	0.0412	1.202	0.0403	0.0101	3.36%	0.0293	3.89%
031.44	Phosphorus, ICP, Dry ash (%)	2	2	1.213	0.0035						
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	1.450							
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	1.109	0.1434						
031.53	Phosphorus, ICP-MS, Microwave (%)	3	3	1.225	0.0835	1.225	0.0835	0.0482	6.82%	0.0567	3.88%
031.99	Phosphorus, Miscellaneous (%)	3	3	1.110	0.1182	1.110	0.1182	0.0683	10.65%	0.0600	3.94%
032.02	Potassium, Flame Emission (%)	2	2	1.293	0.0955						

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
032.31	Potassium, AAS, Dry ash (%)	13	12	1.237	0.0790	1.226	0.0590	0.0213	4.81%	0.0252	3.88%
032.32	Potassium, AAS, Open vessel (%)	3	3	0.9900	0.4591	0.9900	0.4591	0.2651	46.37%	0.0200	4.01%
032.41	Potassium, ICP, Dry ash (%)	31	30	1.209	0.0637	1.209	0.0702	0.0160	5.81%	0.0307	3.89%
032.42	Potassium, ICP, Open vessel (%)	20	20	1.271	0.0972	1.267	0.0964	0.0269	7.61%	0.0334	3.86%
032.43	Potassium, ICP, Microwave (%)	26	26	1.270	0.0734	1.279	0.0522	0.0128	4.08%	0.0354	3.85%
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	1.270							
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	1.173	0.1161						
032.53	Potassium, ICP-MS, Microwave (%)	3	3	1.245	0.0826	1.245	0.0826	0.0477	6.64%	0.0900	3.87%
032.99	Potassium, Miscellaneous (%)	2	2	1.306	0.0559						
033.00	Salt as chloride, Sol Cl (%)	23	23	3.085	0.2708	3.129	0.2018	0.0526	6.45%	0.0817	3.37%
033.01	Salt as chloride, Poten Cl (%)	27	26	3.243	0.0593	3.244	0.0621	0.0152	1.92%	0.0573	3.35%
033.03	Salt as chloride, Quantab (%)	5	5	3.361	0.2646	3.361	0.2646	0.1183	7.87%	0.1460	3.33%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	3.080	0.2696	3.080	0.2696	0.1557	8.75%	0.0400	3.38%
033.99	Salt, Miscellaneous (%)	11	10	2.863	0.4617	2.882	0.4792	0.1894	16.63%	0.0652	3.41%
034.01	Selenium, Fluor (mg / kg (ppm))	1	1	1.807							
034.04	Selenium, AA, Hydride (mg / kg (ppm))	3	3	1.782	0.2847	1.782	0.2847	0.1643	15.97%	0.1332	14.66%
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	3	3	2.000	0.6237	2.000	0.6237	0.3601	31.19%	0.0933	14.41%
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	4	3	2.692	0.0679	2.692	0.0679	0.0392	2.52%	0.2713	13.78%
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	2	2	1.818	0.1450						
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	7	7	1.864	0.1332	1.864	0.1511	0.0714	8.10%	0.1113	14.57%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	2.850							
035.01	Sodium, Ion-selective electrode (%)	3	3	0.8373	0.0218	0.8373	0.0218	0.0126	2.60%	0.0173	4.11%
035.02	Sodium, Em Spect (%)	1	1	0.8700							
035.05	Sodium, Flame Emission (%)	3	3	0.8737	0.0504	0.8737	0.0504	0.0291	5.77%	0.0180	4.08%
035.31	Sodium, AAS, Dry ash (%)	14	13	0.8514	0.1483	0.8771	0.0719	0.0249	8.19%	0.0252	4.08%
035.32	Sodium, AAS, Open vessel (%)	2	2	0.9425	0.0106						
035.41	Sodium, ICP, Dry ash (%)	28	27	0.8281	0.0517	0.8281	0.0587	0.0141	7.08%	0.0198	4.11%
035.42	Sodium, ICP, Open vessel (%)	15	15	0.8978	0.0693	0.8978	0.0786	0.0254	8.76%	0.0155	4.07%
035.43	Sodium, ICP, Microwave (%)	23	23	0.8768	0.0723	0.8836	0.0590	0.0154	6.67%	0.0290	4.07%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.8850							
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.9227	0.0152						
035.53	Sodium, ICP-MS, Microwave (%)	3	3	3.476	4.468	3.476	4.468	3.159	128.52%	0.1427	3.32%
035.99	Sodium, Miscellaneous (%)	3	3	0.8957	0.0701	0.8957	0.0701	0.0405	7.83%	0.0400	4.07%
036.04	Sulfur, LECO (%)	3	3	0.3658	0.0240	0.3658	0.0240	0.0139	6.57%	0.0077	4.65%
036.42	Sulfur, ICP, Open vessel (%)	21	20	0.3652	0.0339	0.3673	0.0329	0.0092	8.97%	0.0078	4.65%
036.43	Sulfur, ICP, Microwave (%)	15	15	0.3833	0.0262	0.3826	0.0281	0.0091	7.34%	0.0148	4.62%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.3895	0.0262						
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.3740							
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	16	15	357.2	35.31	356.2	37.97	12.25	10.66%	4.763	6.61%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	2	2	236.1	122.3						

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
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	2	2	264.3	150.9						
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	27	27	341.5	33.77	342.6	32.84	7.901	9.59%	18.34	6.65%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	19	18	392.0	31.06	392.4	34.28	10.10	8.74%	9.519	6.51%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	23	23	390.7	37.56	390.7	40.48	10.55	10.36%	19.71	6.52%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	2	2	318.6	31.83						
037.51	Zinc, ICP-MS, Dry ash (mg / kg (ppm))	1	1	416.0							
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	1	1	397.0							
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	3	3	450.8	58.67	450.8	58.67	33.88	13.01%	41.00	6.38%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	3	3	380.5	67.12	380.5	67.12	47.46	17.64%	15.00	6.54%
038.32	Molybdenum, AAS, Open vessel (mg / kg (ppm))	1	1	10.02							
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	4	4	9.324	0.9601	9.324	0.9601	0.4800	10.30%	0.9305	11.43%
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	4	9.812	1.534	9.812	1.534	0.7670	15.63%	0.7845	11.34%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	8	7	9.075	0.9842	9.075	1.116	0.5273	12.30%	0.4450	11.48%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	9.970							
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	4	4	10.31	0.5412	10.31	0.5412	0.2706	5.25%	1.145	11.26%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	16.60							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	16.89							
041.53	Vanadium, ICP-MS, Microwave (mg / kg (ppm))	1	1	3.285							
042.00	Chloride, Titrimetric (%)	1	1	1.950							
042.99	Chloride, Miscellaneous (%)	2	2	1.940	0.0071						
101.02	Choline Chloride, LC (mg / kg (ppm))	1	1	1,310							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	77.80							
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	7.525							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	2	2	3.813	1.672						
104.03	Riboflavin, LC (mg / kg (ppm))	1	1	0.7950							
105.00	Thiamine, LC (mg / kg (ppm))	1	1	2.170							
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	3.920							
106.00	Vitamin A, Color (KU / kg)	2	2	72.00	23.76						
106.01	Vitamin A, UV (KU / kg)	2	2	63.20	22.98						
106.02	Vitamin A, LC (KU / kg)	20	19	36.81	15.26	38.24	11.55	3.312	30.20%	4.549	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	32.45							
108.02	Vitamin D3, LC (KU / kg)	6	5	2.345	1.413	2.345	1.413	0.7900	60.27%	0.3724	
109.02	Vitamin E, LC (IU / kg)	17	17	209.5	69.06	219.0	42.92	13.01	19.59%	10.44	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	204.5							
112.01	Pyridoxine, LC (µg / g)	1	1	3.405							
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	0.6045							
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.2255							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	1.175							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	11.14							
120.00	Alanine, Post-col Ninhydrin Der (%)	22	22	0.5879	0.0351	0.5897	0.0235	0.0063	3.99%	0.0067	4.33%

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
120.02	Alanine, Post-col OPA Der (%)	1	1	0.6035							
120.05	Alanine, Pre-col AQC Der (%)	6	6	0.5903	0.1058	0.5770	0.0874	0.0446	15.15%	0.0153	4.34%
121.00	Arginine, Post-col Ninhydrin Der (%)	22	21	0.7410	0.0432	0.7394	0.0405	0.0111	5.48%	0.0110	4.19%
121.02	Arginine, Post-col OPA Der (%)	1	1	0.7220							
121.05	Arginine, Pre-col AQC Der (%)	5	5	0.7544	0.0902	0.7544	0.0902	0.0404	11.96%	0.0104	4.17%
122.00	Aspartic, Post-col Ninhydrin Der (%)	22	22	0.8966	0.0456	0.8987	0.0307	0.0082	3.42%	0.0150	4.06%
122.02	Aspartic, Post-col OPA Der (%)	1	1	0.9260							
122.05	Aspartic, Pre-col AQC Der (%)	6	5	0.8538	0.0707	0.8538	0.0707	0.0395	8.28%	0.0260	4.10%
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	22	22	0.2401	0.0314	0.2352	0.0195	0.0052	8.27%	0.0075	4.97%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.2390							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	6	5	0.2032	0.0945	0.2032	0.0945	0.0188	46.53%	0.0004	5.08%
125.00	Glutamic, Post-col Ninhydrin Der (%)	22	21	2.118	0.1175	2.104	0.0973	0.0265	4.63%	0.0298	3.58%
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.078							
125.05	Glutamic, Pre-col AQC Der (%)	6	6	2.018	0.1239	2.018	0.1405	0.0717	6.96%	0.0730	3.60%
126.00	Glycine, Post-col Ninhydrin Der (%)	22	22	0.6204	0.0353	0.6184	0.0246	0.0066	3.98%	0.0075	4.30%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.6285							
126.05	Glycine, Pre-col AQC Der (%)	6	6	0.6591	0.1436	0.6310	0.0919	0.0469	14.56%	0.0158	4.29%
127.00	Histidine, Post-col Ninhydrin Der (%)	22	21	0.3157	0.0292	0.3120	0.0175	0.0048	5.61%	0.0042	4.77%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.3125							
127.05	Histidine, Pre-col AQC Der (%)	6	6	0.3098	0.0338	0.3100	0.0352	0.0179	11.34%	0.0082	4.77%
128.00	Isoleucine, Post-col Ninhydrin Der (%)	22	22	0.3807	0.0403	0.3838	0.0386	0.0103	10.06%	0.0098	4.62%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.3845							
128.05	Isoleucine, Pre-col AQC Der (%)	6	6	0.4093	0.0612	0.4093	0.0694	0.0354	16.97%	0.0162	4.58%
129.00	Leucine, Post-col Ninhydrin Der (%)	22	21	0.7783	0.0431	0.7765	0.0404	0.0110	5.20%	0.0080	4.15%
129.02	Leucine, Post-col OPA Der (%)	1	1	0.7780							
129.05	Leucine, Pre-col AQC Der (%)	6	6	0.7683	0.0896	0.7683	0.1016	0.0519	13.23%	0.0153	4.16%
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	22	0.4839	0.0257	0.4823	0.0242	0.0064	5.01%	0.0064	4.46%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.4810							
130.05	L-Lysine, Pre-col AQC Der (%)	6	6	0.4776	0.0623	0.4776	0.0707	0.0361	14.79%	0.0158	4.47%
130.99	L-Lysine, Miscellaneous (%)	1	1	0.3900							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	22	22	0.1477	0.0131	0.1474	0.0137	0.0036	9.27%	0.0066	5.34%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.1445							
131.05	Methionine, PAO Pre-col AQC Der (%)	6	6	0.1444	0.0322	0.1438	0.0351	0.0179	24.43%	0.0098	5.36%
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	22	22	0.4779	0.0375	0.4809	0.0263	0.0070	5.47%	0.0083	4.47%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.4760							
132.05	Phenylalanine, Pre-col AQC Der (%)	6	5	0.4644	0.0147	0.4644	0.0147	0.0000	3.17%	0.0008	4.49%
133.00	Proline, Post-col Ninhydrin Der (%)	22	22	0.7831	0.0776	0.7768	0.0715	0.0191	9.21%	0.0298	4.15%
133.05	Proline, Pre-col AQC Der (%)	6	6	0.8257	0.1799	0.8257	0.2040	0.1041	24.70%	0.0220	4.12%
134.00	Serine, Post-col Ninhydrin Der (%)	22	21	0.5343	0.0406	0.5307	0.0354	0.0097	6.67%	0.0116	4.40%
134.02	Serine, Post-col OPA Der (%)	1	1	0.4885							

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
134.05	Serine, Pre-col AQC Der (%)	6	6	0.5851	0.1751	0.5380	0.0760	0.0388	14.12%	0.0072	4.39%
135.00	Threonine, Post-col Ninhydrin Der (%)	22	22	0.4111	0.0180	0.4120	0.0148	0.0039	3.58%	0.0080	4.57%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.4175							
135.05	Threonine, Pre-col AQC Der (%)	6	5	0.4048	0.0257	0.4048	0.0257	0.0144	6.36%	0.0080	4.58%
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	7	0.1648	0.0252	0.1648	0.0286	0.0135	17.34%	0.0118	5.25%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.1493	0.0020	0.1493	0.0020	0.0012	1.35%	0.0033	5.33%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.1555							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	6	6	0.1608	0.0150	0.1578	0.0093	0.0047	5.87%	0.0013	5.28%
136.05	Tryptophan, Pre-col AQC Der (%)	2	2	0.1073	0.0746						
136.99	Tryptophan, Miscellaneous (%)	1	1	0.1050							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	16	0.3303	0.0357	0.3332	0.0310	0.0097	9.31%	0.0132	4.72%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.3175							
137.05	Tyrosine, Pre-col AQC Der (%)	6	5	0.3510	0.0568	0.3510	0.0568	0.0318	16.19%	0.0100	4.68%
138.00	Valine, Post-col Ninhydrin Der (%)	22	22	0.5295	0.0563	0.5377	0.0433	0.0115	8.05%	0.0112	4.39%
138.02	Valine, Post-col OPA Der (%)	1	1	0.5695							
138.05	Valine, Pre-col AQC Der (%)	6	6	0.5673	0.0649	0.5541	0.0403	0.0206	7.27%	0.0142	4.37%
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.0700	0.0495						
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0030							
160.99	Fructose, Miscellaneous (%)	3	2	0.1725	0.0502	0.1725	0.0502			0.0130	5.21%
161.99	Galactose, Miscellaneous (%)	1		0.0000							
162.99	Glucose, Miscellaneous (%)	3	2	0.1285	0.0622	0.1285	0.0622			0.0100	5.45%
163.99	Lactose, Miscellaneous (%)	3	1								
164.99	Maltose, Miscellaneous (%)	2	2	0.2763	0.1220						
165.99	Sucrose, Miscellaneous (%)	3	3	1.138	0.0453	1.138	0.0453	0.0262	3.98%	0.0303	3.92%
166.99	Raffinose, Miscellaneous (%)	3	3	0.5295	0.0318	0.5295	0.0318	0.0184	6.01%	0.0150	4.40%
167.99	Stachyose, Miscellaneous (%)	3	3	0.1917	0.1319	0.1917	0.1319	0.0761	68.81%	0.0120	5.13%
351.00	Chlortetracycline, Plate (mg/kg (ppm))	5	5	62.39	7.887	62.39	7.887	3.527	12.64%	2.810	8.59%
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	10	9	62.94	14.08	60.14	8.113	3.380	13.49%	3.746	8.64%
351.05	Chlortetracycline, LC-MS/MS (mg/kg (ppm))	4	4	75.23	16.44	75.23	16.44	8.220	21.85%	7.305	8.35%
351.99	Chlortetracycline, Miscellaneous (mg/kg (ppm))	1	1	50.95							
365.05	Monensin, LC-MS/MS (mg/kg (ppm))	1	1	3.390							
373.03	Oxytetracycline, LC (mg/kg (ppm))	1	1	106.5							
373.06	Oxytetracycline, LC-MS/MS (mg/kg (ppm))	3	3	0.4953	0.1504	0.4953	0.1504	0.1064	30.37%	0.0585	17.78%
373.99	Oxytetracycline, Miscellaneous (mg/kg (ppm))	1	1	1.425							
381.02	Sulfadimethoxine, LC-MS/MS (mg/kg (ppm))	1	1	56.17							
382.00	Sulfamethazine, Spectrophotometer (mg/kg (ppm))	2	2	78.32	13.00						
382.01	Sulfamethazine, LC (mg/kg (ppm))	5	4	85.71	17.31	85.71	17.31	8.653	20.19%	2.217	8.19%
382.04	Sulfamethazine, LC-MS/MS (mg/kg (ppm))	3	3	59.94	15.82	59.94	15.82	9.134	26.39%	2.430	8.64%
400.01	Water Activity, Aqualab chilled mirror (Units)	8	8	0.5229	0.0242	0.5298	0.0066	0.0029	1.24%	0.0027	

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
400.99	Water Activity, Miscellaneous (Units)	3	3	0.5485	0.0386	0.5485	0.0386	0.0223	7.04%	0.0017	
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	12.46							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	2	2	0.4893	0.0131						
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	1	1	3.064							
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.4900	0.0495						
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.5522	0.0879	0.5522	0.0879	0.0439	15.91%	0.0616	17.49%
518.31	Cadmium, AAS, Dry ash (mg / kg (ppm))	1		0.2000							
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	2	2	0.1832	0.0102						
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	3	3	5.055	8.393	5.055	8.393	5.935	166.02%	0.4160	12.53%
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.2353	0.0279						
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	4	3	0.2326	0.0016	0.2326	0.0016	0.0009	0.67%	0.0169	19.92%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	2	2	8.279	1.250						
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	2	2	13.83	0.0385						
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	3	3	11.41	4.172	11.41	4.172	2.409	36.57%	0.7273	11.09%
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	5.550							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	3	3	12.26	5.095	12.26	5.095	2.942	41.57%	0.9131	10.97%
526.31	Lead, AAS, Dry ash (mg / kg (ppm))	1		0.2000							
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	2	2	0.2093	0.0279						
526.43	Lead, ICP, Microwave (mg / kg (ppm))	1	1	0.5565							
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.2812	0.0234	0.2812	0.0234	0.0135	8.32%	0.0343	19.36%
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.2871	0.0248	0.2871	0.0248	0.0124	8.63%	0.0260	19.30%
529.99	Mercury, Miscellaneous (µg / kg (ppb))	1	1	3.641							
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	2	2	5.864	0.0233						
539.43	Nickel, ICP, Microwave (mg / kg (ppm))	2	2	6.803	0.4417						
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	3.055							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	2	2	6.019	1.777						
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0000							
704.00	Caproic Acid (6:0), Miscellaneous GC (%)	1	1	0.0135							
706.01	Caprylic acid (8:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0020							
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									
714.01	Myristic Acid (14:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0200							
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	2	1	0.0075							
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.5290							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.5463	0.0902						
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0210							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	2	0.0258	0.0223	0.0258	0.0223			0.0005	
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0460							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	2	0.0708	0.0131						

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
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.3815							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.4663	0.0972						
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.7700							
726.02	Linoleic Acid (9c,12c-18:2), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	0.5805							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	0.8130	0.0706	0.8130	0.0706	0.0499	8.68%	0.0247	
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis	1	1	0.0375							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	3	3	0.0522	0.0070	0.0522	0.0070	0.0050	13.44%	0.0003	
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0210							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	1	0.0085							
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0225							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	1	0.0145							
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		0.0100							
738.01	Mead Acid (11c,14c,17c-20:3), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
740.01	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	2		0.0050							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	1	0.0095							
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))	1		0.0050							
746.01	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
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	0.0110							
750.01	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	2		0.0000							
752.01	Nervonic Acid (24:1) isomers, Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	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-Alkali Hydrolysis & GC (% (w/w))	1	1	0.0505							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	2	2	0.0625	0.0106						
756.01	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.5805							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	2	2	0.8375	0.0389						
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.9100							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.5450							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.9450							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	2.410							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	2.065	0.3401						

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

Sheep Feed, Medicated

Test Material Code # 201929

Method Precision Report

Methods Reported: 90

Labs Reporting: 196

Issue Date : 10/31/2019

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 (%)	53	48	8.425	0.4374	0.3310	0.0735	0.3391	3.90%	0.87%	4.00%	4.613
001.99	Loss on Drying, Miscellaneous (%)	23	21	8.354	0.5019	0.3734	0.0724	0.3804	4.43%	0.86%	4.51%	5.255
002.01	Protein, Crude, Auto Kjel-Foss (%)	16	13	13.24	0.5952	0.3632	0.0621	0.3685	2.72%	0.46%	2.76%	5.934
002.05	Protein, Crude, Copper, Boric Acid (%)	33	30	13.31	0.2581	0.1947	0.0700	0.2069	1.47%	0.53%	1.56%	2.954
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	126	118	13.55	0.5613	0.2919	0.1501	0.3282	2.16%	1.11%	2.43%	2.187
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	15	14	2.012	0.4702	0.4665	0.0828	0.4738	23.19%	4.11%	23.55%	5.725
003.06	Fat, Crude, Pet Ether (%)	18	18	1.941	0.4368	0.4337	0.0731	0.4398	22.34%	3.77%	22.66%	6.014
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	12	12	1.901	0.4258	0.4187	0.1094	0.4328	22.02%	5.75%	22.76%	3.957
003.10	Fat, Crude, Randall, Pet Ether (%)	31	28	1.600	0.4467	0.2885	0.0872	0.3014	18.84%	5.70%	19.68%	3.456
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	8	1.664	0.3709	0.3669	0.0763	0.3748	22.05%	4.59%	22.52%	4.910
003.14	Fat, Crude, Ankom (%)	52	47	1.525	0.3622	0.2403	0.1139	0.2659	16.06%	7.61%	17.77%	2.335
004.00	Fiber, Crude, Asbestos Free (%)	14	13	15.18	0.7833	0.5313	0.3651	0.6447	3.47%	2.38%	4.21%	1.766
004.06	Fiber, Crude, Fibertec (%)	22	19	15.02	1.389	0.7953	0.1150	0.8036	5.29%	0.76%	5.34%	6.988
004.07	Fiber, Crude, ANKOM (%)	68	60	15.26	1.784	1.358	0.2865	1.388	8.95%	1.89%	9.15%	4.846
005.00	Ash, 2h @ 600°C (%)	101	91	16.03	0.4735	0.3895	0.1686	0.4244	2.43%	1.05%	2.64%	2.518
005.05	Ash, 3h @ 550°C (%)	33	31	16.51	0.6386	0.4497	0.1571	0.4763	2.74%	0.96%	2.90%	3.032
008.02	Fiber, Acid Detergent, Crucible (%)	16	14	19.39	1.246	0.9861	0.1912	1.004	5.05%	0.98%	5.15%	5.254
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	45	40	19.18	1.348	1.155	0.2718	1.187	6.00%	1.41%	6.16%	4.366
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	15	15	36.30	2.494	2.472	0.4679	2.516	6.81%	1.29%	6.93%	5.377
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	44	40	34.53	1.870	1.592	0.4079	1.643	4.63%	1.19%	4.78%	4.029
010.99	Moisture, Miscellaneous (%)	13	11	8.823	0.7917	0.5557	0.0867	0.5624	6.43%	1.00%	6.51%	6.485
011.01	Loss on Drying, 135°C 2hr (%)	69	64	9.259	0.4120	0.3672	0.0998	0.3805	3.96%	1.08%	4.11%	3.811
012.00	Starch, Polarimetric (Ewers) (%)	17	15	13.70	0.6998	0.5206	0.1871	0.5532	3.83%	1.38%	4.07%	2.956
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	10	13.53	2.319	1.246	0.3674	1.299	9.64%	2.84%	10.05%	3.537
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	16	2.829	0.7090	0.5739	0.0679	0.5779	19.55%	2.31%	19.69%	8.513
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	17	3.358	0.4597	0.4536	0.1057	0.4658	13.51%	3.15%	13.87%	4.408
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	8	8	250.3	21.74	20.51	10.19	22.91	8.20%	4.07%	9.15%	2.247
019.00	Calcium, Ox-Mn04 Vol. (%)	10	10	3.229	0.1517	0.1500	0.0325	0.1535	4.64%	1.01%	4.75%	4.716
019.08	Calcium, EDTA (%)	11	10	3.138	0.3424	0.1486	0.0394	0.1538	4.60%	1.22%	4.76%	3.899
019.31	Calcium, AAS, Dry ash (%)	25	23	3.273	0.2198	0.2190	0.0714	0.2303	6.69%	2.18%	7.03%	3.224
019.41	Calcium, ICP, Dry ash (%)	35	33	3.233	0.2083	0.1805	0.0698	0.1935	5.62%	2.17%	6.02%	2.771
019.42	Calcium, ICP, Open vessel (%)	21	20	3.232	0.2300	0.2247	0.0815	0.2391	6.93%	2.52%	7.38%	2.932
019.43	Calcium, ICP, Microwave (%)	29	27	3.162	0.1917	0.1886	0.0718	0.2018	5.96%	2.27%	6.38%	2.810

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))	13	11	8.891	2.097	2.159	0.5184	2.221	24.14%	5.80%	24.83%	4.284
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	25	23	8.070	1.978	1.646	0.6772	1.780	20.95%	8.62%	22.66%	2.628
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	20	16	10.30	2.944	2.317	0.3479	2.343	24.24%	3.64%	24.51%	6.733
022.43	Copper, ICP, Microwave (mg / kg (ppm))	24	21	9.210	1.604	1.210	0.3166	1.251	13.43%	3.51%	13.88%	3.950
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	15	13	593.0	208.2	159.1	12.74	159.6	25.23%	2.02%	25.31%	12.53
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	24	22	651.7	67.75	57.32	12.55	58.68	8.71%	1.91%	8.92%	4.674
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	15	12	601.4	166.3	109.4	6.745	109.6	17.32%	1.07%	17.35%	16.24
025.43	Iron, ICP, Microwave (mg / kg (ppm))	20	17	666.8	50.11	50.52	15.16	52.75	7.58%	2.27%	7.91%	3.478
027.31	Magnesium, AAS, Dry ash (%)	17	15	0.6849	0.0928	0.0474	0.0092	0.0482	6.68%	1.30%	6.80%	5.245
027.41	Magnesium, ICP, Dry ash (%)	29	28	0.7103	0.0310	0.0306	0.0108	0.0325	4.31%	1.52%	4.57%	3.007
027.42	Magnesium, ICP, Open vessel (%)	20	20	0.7045	0.0450	0.0425	0.0208	0.0473	6.03%	2.96%	6.71%	2.270
027.43	Magnesium, ICP, Microwave (%)	25	23	0.6918	0.0416	0.0320	0.0136	0.0347	4.59%	1.95%	4.99%	2.557
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	16	15	403.9	30.74	23.68	7.021	24.70	5.79%	1.72%	6.04%	3.517
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	27	24	389.7	37.21	29.56	8.279	30.70	7.53%	2.11%	7.82%	3.709
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	19	18	409.6	72.95	27.69	10.51	29.61	6.51%	2.47%	6.97%	2.819
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	24	22	408.5	27.33	27.26	8.367	28.51	6.68%	2.05%	6.99%	3.408
031.01	Phosphorus, Photometric (%)	42	39	1.181	0.0731	0.0591	0.0158	0.0612	4.97%	1.33%	5.15%	3.869
031.41	Phosphorus, ICP, Dry ash (%)	31	30	1.185	0.0614	0.0546	0.0270	0.0609	4.62%	2.29%	5.16%	2.255
031.42	Phosphorus, ICP, Open vessel (%)	21	20	1.180	0.0674	0.0652	0.0241	0.0695	5.52%	2.04%	5.89%	2.882
031.43	Phosphorus, ICP, Microwave (%)	26	23	1.203	0.0412	0.0314	0.0224	0.0386	2.62%	1.87%	3.22%	1.724
032.31	Potassium, AAS, Dry ash (%)	13	11	1.237	0.0790	0.0430	0.0233	0.0489	3.53%	1.91%	4.02%	2.102
032.41	Potassium, ICP, Dry ash (%)	31	29	1.209	0.0637	0.0622	0.0243	0.0667	5.15%	2.01%	5.52%	2.747
032.42	Potassium, ICP, Open vessel (%)	20	18	1.271	0.0972	0.0779	0.0268	0.0824	6.22%	2.14%	6.58%	3.073
032.43	Potassium, ICP, Microwave (%)	26	25	1.270	0.0734	0.0402	0.0310	0.0507	3.13%	2.42%	3.96%	1.636
033.00	Salt as chloride, Sol Cl (%)	23	22	3.085	0.2708	0.2197	0.0792	0.2335	7.05%	2.54%	7.49%	2.947
033.01	Salt as chloride, Poten Cl (%)	27	24	3.243	0.0593	0.0524	0.0410	0.0665	1.62%	1.26%	2.05%	1.624
033.99	Salt, Miscellaneous (%)	11	10	2.863	0.4617	0.4596	0.0616	0.4637	16.06%	2.15%	16.20%	7.527
035.31	Sodium, AAS, Dry ash (%)	14	12	0.8514	0.1483	0.0605	0.0227	0.0646	6.80%	2.55%	7.27%	2.844
035.41	Sodium, ICP, Dry ash (%)	28	26	0.8281	0.0517	0.0516	0.0157	0.0539	6.23%	1.89%	6.51%	3.438
035.42	Sodium, ICP, Open vessel (%)	15	14	0.8978	0.0693	0.0684	0.0114	0.0693	7.57%	1.27%	7.67%	6.059
035.43	Sodium, ICP, Microwave (%)	23	22	0.8768	0.0723	0.0568	0.0290	0.0638	6.41%	3.28%	7.20%	2.197
036.42	Sulfur, ICP, Open vessel (%)	21	19	0.3652	0.0339	0.0271	0.0066	0.0279	7.33%	1.79%	7.54%	4.223
036.43	Sulfur, ICP, Microwave (%)	15	15	0.3833	0.0262	0.0239	0.0149	0.0282	6.25%	3.89%	7.36%	1.893
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	16	14	357.2	35.31	31.80	3.677	32.01	9.01%	1.04%	9.07%	8.704
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	27	24	341.5	33.77	25.58	14.34	29.32	7.50%	4.20%	8.60%	2.046
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	19	17	392.0	31.06	29.80	6.836	30.57	7.55%	1.73%	7.75%	4.472
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	23	22	390.7	37.56	36.02	15.43	39.18	9.26%	3.96%	10.07%	2.540
106.02	Vitamin A, LC (KU / kg)	20	18	36.81	15.26	12.43	4.050	13.07	31.99%	10.42%	33.65%	3.228
109.02	Vitamin E, LC (IU / kg)	17	15	209.5	69.06	44.64	9.445	45.63	20.28%	4.29%	20.72%	4.832
120.00	Alanine, Post-col Ninhydrin Der (%)	22	22	0.5879	0.0351	0.0347	0.0068	0.0354	5.91%	1.16%	6.02%	5.175
121.00	Arginine, Post-col Ninhydrin Der (%)	22	19	0.7410	0.0432	0.0360	0.0087	0.0371	4.90%	1.18%	5.04%	4.275
122.00	Aspartic, Post-col Ninhydrin Der (%)	22	21	0.8966	0.0456	0.0371	0.0140	0.0397	4.11%	1.55%	4.40%	2.836
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	22	20	0.2401	0.0314	0.0222	0.0052	0.0228	9.49%	2.24%	9.75%	4.358

Test Material Code # 201929

Issue Date : 10/31/2019

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 (%)	22	21	2.118	0.1175	0.1158	0.0283	0.1192	5.47%	1.34%	5.63%	4.208
126.00	Glycine, Post-col Ninhydrin Der (%)	22	22	0.6204	0.0353	0.0350	0.0071	0.0357	5.64%	1.15%	5.75%	5.004
127.00	Histidine, Post-col Ninhydrin Der (%)	22	19	0.3157	0.0292	0.0194	0.0032	0.0196	6.25%	1.02%	6.33%	6.176
128.00	Isoleucine, Post-col Ninhydrin Der (%)	22	22	0.3807	0.0403	0.0398	0.0087	0.0408	10.46%	2.28%	10.70%	4.705
129.00	Leucine, Post-col Ninhydrin Der (%)	22	20	0.7783	0.0431	0.0433	0.0067	0.0438	5.55%	0.86%	5.61%	6.504
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	20	0.4839	0.0257	0.0220	0.0040	0.0224	4.59%	0.83%	4.66%	5.642
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	22	22	0.1477	0.0131	0.0123	0.0062	0.0138	8.33%	4.20%	9.33%	2.223
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	22	20	0.4779	0.0375	0.0311	0.0084	0.0323	6.47%	1.74%	6.70%	3.854
133.00	Proline, Post-col Ninhydrin Der (%)	22	20	0.7831	0.0776	0.0573	0.0264	0.0631	7.46%	3.43%	8.21%	2.393
134.00	Serine, Post-col Ninhydrin Der (%)	22	19	0.5343	0.0406	0.0295	0.0096	0.0311	5.60%	1.82%	5.89%	3.228
135.00	Threonine, Post-col Ninhydrin Der (%)	22	20	0.4111	0.0180	0.0146	0.0062	0.0159	3.53%	1.51%	3.84%	2.542
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	14	0.3303	0.0357	0.0258	0.0107	0.0279	7.66%	3.17%	8.29%	2.618
138.00	Valine, Post-col Ninhydrin Der (%)	22	20	0.5295	0.0563	0.0480	0.0095	0.0490	8.96%	1.77%	9.13%	5.175
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	10	8	62.94	14.08	5.572	2.700	6.192	9.51%	4.61%	10.56%	2.294

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