

Animal Feed Scheme
Beef Feed
Test Material Code # 201828

Method Summary Report
(Precision Report Follows)

Methods Reported: 400
Labs Reporting: 193
Issue Date : 09/30/2018

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
000.02	Urea, As protein, Colorimetric (%)	1	1	0.55000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	5	8.8405	0.43707	8.8405	0.43707	0.24433	4.94%	0.15620	2.88%
001.03	Loss on Drying, Low temp. methods (%)	5	5	9.2200	0.13933	9.2200	0.13933	0.07789	1.51%	0.08800	2.86%
001.05	Loss on Drying, LECO (%)	2	2	8.8500	0.09899						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	47	46	9.0227	0.44609	9.0662	0.35495	0.06542	3.92%	0.12441	2.87%
001.99	Loss on Drying, Miscellaneous (%)	20	19	8.8072	0.68885	8.8820	0.58261	0.16707	6.56%	0.13377	2.88%
002.00	Protein, Crude, Crude (%)	1	1	11.825							
002.01	Protein, Crude, Auto Kjel-Foss (%)	15	15	11.934	0.24400	11.937	0.27098	0.08746	2.27%	0.09343	2.75%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	4	4	11.773	0.19085	11.773	0.19085	0.11928	1.62%	0.08993	2.76%
002.03	Protein, Crude, Hach Method (%)	2	2	11.661	0.23936						
002.04	Protein, Crude, Copper Catalyst (%)	5	4	11.780	0.43698	11.780	0.43698	0.31536	3.71%	0.04000	2.76%
002.05	Protein, Crude, Copper, Boric Acid (%)	34	34	11.985	0.41757	11.936	0.21865	0.04687	1.83%	0.05998	2.75%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	117	116	12.114	0.40927	12.107	0.25415	0.02950	2.10%	0.13138	2.75%
002.08	Protein, Crude, Cu/Ti (%)	1	1	11.795							
002.11	Protein, Crude, NIR (%)	6	5	13.570	1.4146	13.570	1.4146	0.79080	10.42%	0.05360	2.70%
002.99	Protein, Crude, Miscellaneous (%)	2	2	12.038	0.52679						
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	13	13	2.4840	0.33454	2.4982	0.34331	0.11902	13.74%	0.14222	3.48%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	2.2200							
003.06	Fat, Crude, Pet Ether (%)	15	15	2.3484	0.31518	2.3413	0.31991	0.10325	13.66%	0.12873	3.52%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	17	17	2.4701	0.27546	2.4680	0.30794	0.09336	12.48%	0.08325	3.49%
003.10	Fat, Crude, Randall, Pet Ether (%)	32	32	2.2311	0.41703	2.1839	0.25430	0.05619	11.64%	0.10710	3.56%
003.11	Fat, Crude, NIR (%)	6	6	2.1667	0.83737	2.1667	0.94958	0.48458	43.83%	0.06777	3.56%
003.12	Fat, Crude, Hexane Ext (%)	5	5	2.3830	0.38139	2.3830	0.38139	0.21320	16.00%	0.14600	3.51%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	10	9	2.3211	0.20307	2.3211	0.23028	0.09595	9.92%	0.05702	3.52%
003.14	Fat, Crude, Ankom (%)	46	46	2.0750	0.37301	2.1009	0.31400	0.05787	14.95%	0.11241	3.58%
003.99	Fat, Crude, Miscellaneous (%)	5	4	2.4713	0.44973	2.4713	0.44973	0.28108	18.20%	0.04750	3.49%
004.00	Fiber, Crude, Asbestos Free (%)	15	15	18.307	1.2025	18.097	0.81522	0.26311	4.50%	0.41240	2.35%
004.03	Fiber, Crude, Fritted Glass (%)	5	5	17.282	2.2096	17.282	2.2096	1.2352	12.79%	0.38300	2.41%
004.06	Fiber, Crude, Fibertec (%)	24	22	17.641	0.60496	17.661	0.64172	0.17102	3.63%	0.15570	2.38%
004.07	Fiber, Crude, ANKOM (%)	64	63	18.219	1.9427	18.052	1.5858	0.24974	8.78%	0.41689	2.35%
004.11	Fiber, Crude, NIR (%)	5	5	18.960	2.8524	18.960	2.8524	1.5945	15.04%	0.27980	2.30%
004.99	Fiber, Crude, Miscellaneous (%)	6	6	17.063	1.4124	16.942	1.3099	0.66844	7.73%	0.32333	2.43%

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005.00	Ash, 2h @ 600°C (%)	96	94	16.797	0.47506	16.792	0.45496	0.05866	2.71%	0.18037	2.44%
005.02	Ash, LECO (%)	1	1	17.695							
005.05	Ash, 3h @ 550°C (%)	30	29	17.481	0.45697	17.511	0.43368	0.10067	2.48%	0.12810	2.39%
005.11	Ash, NIR (%)	4	4	14.745	7.3769	14.745	7.3769	4.6106	50.03%	0.34350	2.60%
005.99	Ash, Miscellaneous (%)	11	11	17.197	1.1136	17.320	0.94381	0.35571	5.45%	0.27665	2.40%
006.00	Total Sugars, As sucrose (%)	4	3	3.2650	1.0782	3.2650	1.0782	0.95300	33.02%	0.44333	3.35%
006.99	Total Sugars, Miscellaneous (%)	2	2	2.7200	0.39598						
008.02	Fiber, Acid Detergent, Crucible (%)	16	16	23.200	2.1820	23.170	1.8060	0.56437	7.79%	0.26891	2.08%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	23.400							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	37	36	22.170	1.3939	22.157	1.4823	0.30882	6.69%	0.42072	2.12%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	3	3	21.980	0.50567	21.980	0.50567	0.36494	2.30%	0.16000	2.13%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	37.410							
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	14	14	37.193	1.6926	36.943	1.2837	0.42884	3.47%	0.54222	1.65%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	37	35	35.125	1.7384	35.084	1.8702	0.39515	5.33%	0.36927	1.69%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	2	2	36.538	3.2916						
010.03	Moisture, Karl-Fischer (%)	2	2	8.6100	0.03536						
010.11	Moisture, NIR (%)	6	5	9.4119	1.5078	9.4119	1.5078	0.84291	16.02%	0.04300	2.85%
010.99	Moisture, Miscellaneous (%)	15	15	9.3691	0.73603	9.2942	0.62888	0.20297	6.77%	0.13508	2.86%
011.01	Loss on Drying, 135°C 2hr (%)	71	70	10.042	0.54212	10.090	0.46443	0.06939	4.60%	0.17472	2.82%
011.02	Loss on Drying, 130°C for 2 hours (%)	4	4	10.098	0.36743	10.098	0.36743	0.22964	3.64%	0.11000	2.82%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	10.665	0.86974						
012.00	Starch, Polarimetric (Ewers) (%)	16	15	9.7464	0.52034	9.7735	0.39183	0.12646	4.01%	0.14200	2.84%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	10	10	8.8757	1.1364	8.8135	1.1428	0.45174	12.97%	0.28516	2.88%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	2	2	8.2813	0.24225						
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	4	8.5813	0.42731	8.5813	0.42731	0.26707	4.98%	0.35750	2.89%
012.11	Starch, NIR (%)	3	3	9.7238	3.0916	9.7238	3.0916	2.2312	31.79%	0.32367	2.84%
012.99	Starch, Miscellaneous (%)	1	1	9.0450							
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	16	3.0342	0.50562	3.0342	0.57337	0.17918	18.90%	0.11093	3.38%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	18	3.6025	0.58346	3.5299	0.43933	0.12944	12.45%	0.13566	3.31%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	2.7435							
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	6	6	3.0229	0.79387	2.8338	0.41454	0.21154	14.63%	0.09335	3.42%
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	2.0278							
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	5	5	3.4861	0.48367	3.4861	0.48367	0.27038	13.87%	0.07982	3.31%
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	4	4	280.80	31.228	280.80	31.228	19.518	11.12%	13.898	6.85%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	285.30							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	6	6	262.07	42.313	273.69	17.642	9.0027	6.45%	9.7383	6.87%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	215.50							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	1	1	321.50							
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	4	4	10.436	1.2352	10.436	1.2352	0.77200	11.84%	0.59250	11.24%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	6	5	10.603	1.7526	10.603	1.7526	0.19654	16.53%	0.46160	11.21%

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017.43	Boron, ICP, Microwave (mg / kg (ppm))	6	4	11.111	1.3302	11.111	1.3302	0.82798	11.97%	0.07750	11.13%
017.53	Boron, ICP-MS, Microwave (mg / kg (ppm))	1		0.00000							
019.00	Calcium, Ox-Mn04 Vol. (%)	9	9	3.4612	0.16585	3.4565	0.17747	0.07395	5.13%	0.03356	3.32%
019.02	Calcium, Hach Method (%)	2	2	3.1520	0.30123						
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	3.6048							
019.08	Calcium, EDTA (%)	12	11	3.2776	0.56823	3.3804	0.32685	0.12319	9.67%	0.07636	3.33%
019.09	Calcium, Ion-selective electrode (%)	1	1	3.9020							
019.31	Calcium, AAS, Dry ash (%)	23	22	3.5225	0.20715	3.5026	0.17990	0.04794	5.14%	0.06396	3.31%
019.32	Calcium, AAS, Open vessel (%)	1	1	3.3650							
019.33	Calcium, AAS, Microwave (%)	1	1	3.6350							
019.41	Calcium, ICP, Dry ash (%)	30	29	3.4203	0.16277	3.4185	0.16759	0.03890	4.90%	0.06226	3.32%
019.42	Calcium, ICP, Open vessel (%)	18	17	3.4516	0.12841	3.4589	0.12258	0.03716	3.54%	0.09962	3.32%
019.43	Calcium, ICP, Microwave (%)	30	29	3.4443	0.16113	3.4442	0.16687	0.03873	4.85%	0.08024	3.32%
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	3.4050							
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	3.6157	0.34763	3.6157	0.34763	0.25088	9.61%	0.12883	3.30%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	3.3375	0.33003	3.3375	0.33003	0.20627	9.89%	0.13280	3.34%
019.99	Calcium, Miscellaneous (%)	7	6	3.4720	0.17817	3.4720	0.20204	0.10311	5.82%	0.02182	3.32%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	1	1	10.095							
021.34	Cobalt, AAS, Graphite furnace (mg / kg (ppm))	1	1	9.7600							
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	4	4	6.4209	2.4674	6.4209	2.4674	1.5421	38.43%	0.06825	12.09%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	4	4	8.5985	1.1437	8.5985	1.1437	0.71481	13.30%	0.48400	11.57%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	7	7	9.5297	1.2722	9.6049	1.2657	0.59798	13.18%	0.66644	11.38%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	3	3	8.1400	0.89822	8.1400	0.89822	0.64823	11.03%	0.09333	11.67%
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	6	6	10.118	1.4733	10.118	1.6707	0.85256	16.51%	0.75003	11.29%
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	15	15	222.67	20.697	224.52	16.376	5.2853	7.29%	7.7610	7.08%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	2	2	218.97	23.997						
022.33	Copper, AAS, Microwave (mg / kg (ppm))	2	2	242.50	21.781						
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	23	202.56	20.223	202.56	22.933	5.9774	11.32%	8.9009	7.19%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	19	19	249.28	15.295	251.14	11.456	3.2853	4.56%	7.5534	6.96%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	29	28	246.80	13.265	247.30	11.881	2.8067	4.80%	8.9510	6.98%
022.51	Copper, ICP-MS, Dry ash (mg / kg (ppm))	1	1	204.40							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	250.33	0.94752						
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	4	4	231.75	33.009	231.75	33.009	20.631	14.24%	2.0000	7.05%
022.99	Copper, Miscellaneous (mg / kg (ppm))	5	4	247.60	4.7614	247.60	4.7614	3.4362	1.92%	7.6125	6.98%
023.01	Fluorine, Ion Sel Elect (mg / kg (ppm))	1	1	53.600							
024.99	Iodine, Miscellaneous (mg / kg (ppm))	1	1	16.900							
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	15	14	903.79	47.903	906.38	48.080	16.062	5.30%	26.452	5.74%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	769.89							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	22	22	858.88	78.908	871.29	57.968	15.448	6.65%	33.734	5.77%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	14	13	772.32	193.44	807.71	135.10	46.839	16.73%	22.108	5.84%

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025.43	Iron, ICP, Microwave (mg / kg (ppm))	21	21	913.40	86.228	903.91	63.886	17.426	7.07%	34.653	5.74%
025.51	Iron, ICP-MS, Dry ash (mg / kg (ppm))	1	1	944.40							
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	2	2	739.25	281.78						
025.99	Iron, Miscellaneous (mg / kg (ppm))	3	3	926.61	30.704	926.61	30.704	22.159	3.31%	12.097	5.72%
027.31	Magnesium, AAS, Dry ash (%)	13	13	0.53444	0.08190	0.55261	0.02393	0.00830	4.33%	0.01101	4.37%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.45950							
027.33	Magnesium, AAS, Microwave (%)	2	2	0.56100	0.00283						
027.41	Magnesium, ICP, Dry ash (%)	25	24	0.54393	0.02555	0.54497	0.02391	0.00610	4.39%	0.00985	4.38%
027.42	Magnesium, ICP, Open vessel (%)	17	16	0.54681	0.02305	0.54826	0.02271	0.00710	4.14%	0.01608	4.38%
027.43	Magnesium, ICP, Microwave (%)	28	27	0.54965	0.03835	0.54908	0.03497	0.00841	6.37%	0.01641	4.38%
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.55500							
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.55985	0.05013	0.55985	0.05013	0.03618	8.95%	0.00723	4.36%
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.55057	0.04687	0.55057	0.04687	0.03383	8.51%	0.01647	4.38%
027.99	Magnesium, Miscellaneous (%)	5	5	0.59888	0.07143	0.59888	0.07143	0.03993	11.93%	0.00900	4.32%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	13	13	530.50	32.606	534.02	27.479	9.5266	5.15%	9.4769	6.22%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	2	2	538.21	30.822						
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	1	1	524.95							
028.34	Manganese, AAS, Dry ash (mg / kg (ppm))	1	1	534.41							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	23	23	511.28	43.603	515.70	30.223	7.8775	5.86%	16.579	6.25%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	18	17	532.96	24.105	533.39	20.825	6.3134	3.90%	10.865	6.22%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	27	27	548.36	27.270	547.67	26.703	6.4237	4.88%	15.544	6.19%
028.51	Manganese, ICP-MS, Dry ash (mg / kg (ppm))	1	1	466.85							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	2	2	550.17	6.1271						
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	3	3	522.82	48.940	522.82	48.940	35.319	9.36%	9.0333	6.24%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	4	4	548.80	49.655	548.80	49.655	31.034	9.05%	10.353	6.19%
031.00	Phosphorus, Vol (%)	1	1	1.0550							
031.01	Phosphorus, Photometric (%)	44	43	1.0720	0.06482	1.0783	0.05090	0.00970	4.72%	0.02558	3.95%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	2	2	1.1375	0.03889						
031.03	Phosphorus, Autoanalyzer (%)	3	3	1.1057	0.00622	1.1057	0.00622	0.00449	0.56%	0.01737	3.94%
031.06	Phosphorus, Hach Method (%)	1	1	1.1300							
031.41	Phosphorus, ICP, Dry ash (%)	29	29	1.0898	0.04968	1.0918	0.04627	0.01074	4.24%	0.02328	3.95%
031.42	Phosphorus, ICP, Open vessel (%)	19	19	1.0767	0.05087	1.0792	0.04973	0.01426	4.61%	0.03961	3.95%
031.43	Phosphorus, ICP, Microwave (%)	27	27	1.0974	0.13090	1.1022	0.05834	0.01403	5.29%	0.03450	3.94%
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	1.1300							
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	1.0612	0.14375						
031.53	Phosphorus, ICP-MS, Microwave (%)	4	4	1.0703	0.11868	1.0703	0.11868	0.07418	11.09%	0.05388	3.96%
031.99	Phosphorus, Miscellaneous (%)	5	5	1.0408	0.06882	1.0408	0.06882	0.03847	6.61%	0.03432	3.98%
032.02	Potassium, Flame Emission (%)	2	2	1.2803	0.01379						
032.31	Potassium, AAS, Dry ash (%)	12	11	1.2798	0.04267	1.2794	0.04756	0.01792	3.72%	0.02182	3.85%
032.32	Potassium, AAS, Open vessel (%)	1	1	1.0800							

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032.33	Potassium, AAS, Microwave (%)	1	1	1.3700							
032.41	Potassium, ICP, Dry ash (%)	27	27	1.2887	0.05918	1.2908	0.05656	0.01361	4.38%	0.02600	3.85%
032.42	Potassium, ICP, Open vessel (%)	18	17	1.3022	0.03794	1.3036	0.03971	0.01204	3.05%	0.04065	3.84%
032.43	Potassium, ICP, Microwave (%)	28	28	1.3300	0.06828	1.3217	0.04234	0.01000	3.20%	0.03674	3.84%
032.44	Potassium, ICP, Dry ash (%)	1	1	1.4350							
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	1.2900							
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	1.2130	0.02546						
032.53	Potassium, ICP-MS, Microwave (%)	3	3	1.3190	0.10452	1.3190	0.10452	0.07543	7.92%	0.06727	3.84%
032.99	Potassium, Miscellaneous (%)	5	4	1.3195	0.06616	1.3195	0.06616	0.04135	5.01%	0.01800	3.84%
033.00	Salt as chloride, Sol Cl (%)	22	22	3.2533	0.43783	3.3719	0.17473	0.04656	5.18%	0.05876	3.33%
033.01	Salt as chloride, Poten Cl (%)	35	35	3.5390	0.09305	3.5394	0.09976	0.02108	2.82%	0.05392	3.31%
033.03	Salt as chloride, Quantab (%)	4	3	3.4733	0.20526	3.4733	0.20526	0.18143	5.91%	0.00667	3.32%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	3.5117	0.05795	3.5117	0.05795	0.04182	1.65%	0.06333	3.31%
033.99	Salt, Miscellaneous (%)	9	9	3.6052	0.26861	3.5776	0.23598	0.09833	6.60%	0.26456	3.30%
034.04	Selenium, AA, Hydride (mg / kg (ppm))	5	5	5.5045	0.35594	5.5045	0.35594	0.19898	6.47%	0.11344	12.38%
034.31	Selenium, AAS, Dry ash (mg / kg (ppm))	1	1	6.3100							
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	3	3	4.2287	1.3853	4.2287	1.3853	0.99975	32.76%	0.07667	12.88%
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	6	5	6.0471	0.54353	6.0471	0.54353	0.30385	8.99%	0.25030	12.20%
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	4	4	5.5788	0.23925	5.5788	0.23925	0.14953	4.29%	0.22750	12.35%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	9	9	5.8228	1.1120	5.7507	1.0904	0.45434	18.96%	0.27336	12.29%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	4.6850							
035.01	Sodium, Ion-selective electrode (%)	3	3	1.2755	0.04172	1.2755	0.04172	0.03011	3.27%	0.01500	3.86%
035.05	Sodium, Flame Emission (%)	3	3	1.3300	0.03500	1.3300	0.03500	0.02526	2.63%	0.07333	3.83%
035.31	Sodium, AAS, Dry ash (%)	18	16	1.2627	0.08454	1.2622	0.09037	0.02824	7.16%	0.01988	3.86%
035.32	Sodium, AAS, Open vessel (%)	1	1	1.0150							
035.41	Sodium, ICP, Dry ash (%)	26	26	1.2328	0.07579	1.2324	0.07660	0.01878	6.21%	0.03991	3.88%
035.42	Sodium, ICP, Open vessel (%)	14	14	1.2704	0.06368	1.2725	0.05486	0.01833	4.31%	0.04734	3.86%
035.43	Sodium, ICP, Microwave (%)	24	24	1.2650	0.12529	1.2827	0.06730	0.01717	5.25%	0.04045	3.85%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	1.2500							
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	1.3372	0.10214						
035.53	Sodium, ICP-MS, Microwave (%)	3	3	1.2917	0.12790	1.2917	0.12790	0.09230	9.90%	0.05540	3.85%
035.99	Sodium, Miscellaneous (%)	4	4	1.1965	0.10840	1.1965	0.10840	0.06775	9.06%	0.03128	3.89%
036.04	Sulfur, LECO (%)	3	3	0.38235	0.01506	0.38235	0.01506	0.01087	3.94%	0.01377	4.62%
036.42	Sulfur, ICP, Open vessel (%)	17	17	0.37800	0.03185	0.37477	0.02683	0.00813	7.16%	0.01282	4.64%
036.43	Sulfur, ICP, Microwave (%)	14	13	0.38572	0.02444	0.38630	0.02332	0.00809	6.04%	0.00792	4.62%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	1,850.9	2,617.1						
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.41650							
036.99	Sulfur, Miscellaneous (%)	2	2	0.37248	0.03893						
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	14	14	687.27	60.003	695.91	45.208	15.103	6.50%	16.474	5.97%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	2	2	656.28	6.0581						

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037.33	Zinc, AAS, Microwave (mg / kg (ppm))	2	2	745.42	13.554						
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	23	663.23	43.438	664.85	45.770	11.930	6.88%	22.040	6.01%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	17	17	714.24	36.085	714.86	39.572	11.997	5.54%	22.500	5.95%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	26	25	718.78	41.834	722.50	33.798	8.4496	4.68%	18.066	5.94%
037.51	Zinc, ICP-MS, Dry ash (mg / kg (ppm))	1	1	674.20							
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	2	2	647.12	64.891						
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	3	3	701.67	120.44	701.67	120.44	86.920	17.16%	50.000	5.97%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	5	4	711.15	58.957	711.15	58.957	36.848	8.29%	12.288	5.95%
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	3	3	5.3258	3.3629	5.3258	3.3629	2.4270	63.14%	0.09967	12.44%
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	5	5	4.4329	0.49543	4.4329	0.49543	0.27695	11.18%	0.33660	12.79%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	8	7	4.1076	0.80497	4.1076	0.91284	0.43128	22.22%	0.10963	12.93%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	2	2	2.8250	0.24749						
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	5	4	4.2608	0.82886	4.2608	0.82886	0.51804	19.45%	0.13638	12.86%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	8.4400							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	8.7502							
041.43	Vanadium, ICP, Microwave (mg / kg (ppm))	1	1	3.9000							
041.53	Vanadium, ICP-MS, Microwave (mg / kg (ppm))	2	2	4.2625	0.54801						
042.00	Chloride, Titrimetric (%)	1	1	2.1350							
042.99	Chloride, Miscellaneous (%)	1	1	2.3850							
095.01	Methoprene, LC (UV or FL) (mg/kg (ppm))	2	2	11.188	9.2030						
095.99	Methoprene, Miscellaneous (mg/kg (ppm))	1	1	11.500							
101.02	Choline Chloride, LC (mg / kg (ppm))	1	1	1,155.0							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	55.850							
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	5.3850							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	1	1	6.6350							
104.03	Riboflavin, LC (mg / kg (ppm))	1	1	1.3850							
105.00	Thiamine, LC (mg / kg (ppm))	1	1	1.1500							
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	1.3400							
106.00	Vitamin A, Color (KU / kg)	1	1	60.987							
106.01	Vitamin A, UV (KU / kg)	1	1	30.650							
106.02	Vitamin A, LC (KU / kg)	21	21	27.448	16.250	24.008	5.7534	1.5694	23.96%	1.7880	
106.99	Vitamin A, Miscellaneous (KU / kg)	2	2	23.103	2.9663						
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	29.500							
108.01	Vitamin D3, LC, AOAC (KU / kg)	2	2	2.0950	0.34648						
108.02	Vitamin D3, LC (KU / kg)	5	4	11.095	4.3325	11.095	4.3325	3.1267	39.05%	1.3728	
108.99	Vitamin D3, Miscellaneous (KU / kg)	1	1	9.8400							
109.02	Vitamin E, LC (IU / kg)	14	14	37.954	13.988	41.094	7.5876	2.5349	18.46%	1.9714	
109.99	Vitamin E, Miscellaneous (IU / kg)	3	3	43.758	21.793	43.758	21.793	15.728	49.80%	2.2900	
112.01	Pyridoxine, LC (µg / g)	1	1	3.8800							
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	0.50700							

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114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.19900							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.74000							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	20.000							
120.00	Alanine, Post-col Ninhydrin Der (%)	24	24	0.65417	0.04674	0.64999	0.02743	0.00700	4.22%	0.01443	4.27%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.65150							
120.05	Alanine, Pre-col AQC Der (%)	7	6	0.66575	0.10292	0.64597	0.06690	0.03414	10.36%	0.00850	4.27%
121.00	Arginine, Post-col Ninhydrin Der (%)	24	24	0.47549	0.03189	0.47437	0.02204	0.00562	4.65%	0.01200	4.47%
121.02	Arginine, Post-col OPA Der (%)	1	1	0.45050							
121.05	Arginine, Pre-col AQC Der (%)	7	7	0.47350	0.02651	0.47350	0.03006	0.01420	6.35%	0.01929	4.48%
122.00	Aspartic, Post-col Ninhydrin Der (%)	24	23	0.78626	0.04968	0.78263	0.03256	0.00849	4.16%	0.00941	4.15%
122.02	Aspartic, Post-col OPA Der (%)	1	1	0.78800							
122.05	Aspartic, Pre-col AQC Der (%)	7	7	0.79936	0.08701	0.78426	0.06002	0.02836	7.65%	0.03271	4.15%
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	24	24	0.20243	0.04322	0.20853	0.02487	0.00635	11.93%	0.00879	5.06%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.21600							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	6	6	0.19842	0.09886	0.21432	0.07260	0.03705	33.87%	0.01850	5.04%
125.00	Glutamic, Post-col Ninhydrin Der (%)	24	24	1.6456	0.11778	1.6318	0.09341	0.02383	5.72%	0.02133	3.72%
125.02	Glutamic, Post-col OPA Der (%)	1	1	1.6020							
125.05	Glutamic, Pre-col AQC Der (%)	7	7	1.6863	0.29038	1.6223	0.15974	0.07547	9.85%	0.05857	3.72%
126.00	Glycine, Post-col Ninhydrin Der (%)	24	23	0.58166	0.03399	0.57995	0.02565	0.00668	4.42%	0.00824	4.34%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.57200							
126.05	Glycine, Pre-col AQC Der (%)	7	6	0.57733	0.03762	0.57029	0.02497	0.01274	4.38%	0.02033	4.35%
127.00	Histidine, Post-col Ninhydrin Der (%)	24	23	0.27354	0.03329	0.26747	0.01598	0.00416	5.97%	0.00397	4.88%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.26100							
127.05	Histidine, Pre-col AQC Der (%)	7	6	0.22850	0.08840	0.25623	0.02658	0.01356	10.37%	0.00533	4.91%
128.00	Isoleucine, Post-col Ninhydrin Der (%)	24	24	0.34326	0.02873	0.34408	0.01891	0.00482	5.50%	0.00470	4.70%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.33950							
128.05	Isoleucine, Pre-col AQC Der (%)	7	6	0.32342	0.06151	0.32601	0.06363	0.03247	19.52%	0.00517	4.73%
129.00	Leucine, Post-col Ninhydrin Der (%)	24	24	0.80205	0.04136	0.80016	0.03639	0.00928	4.55%	0.00952	4.14%
129.02	Leucine, Post-col OPA Der (%)	1	1	0.79550							
129.05	Leucine, Pre-col AQC Der (%)	7	6	0.77133	0.02592	0.77133	0.02939	0.01500	3.81%	0.00900	4.16%
130.00	L-Lysine, Post-col Ninhydrin Der (%)	24	24	0.40965	0.03952	0.40773	0.02475	0.00632	6.07%	0.00808	4.58%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.38550							
130.05	L-Lysine, Pre-col AQC Der (%)	7	7	0.37864	0.05075	0.38957	0.02872	0.01357	7.37%	0.01500	4.61%
130.99	L-Lysine, Miscellaneous (%)	2	2	0.44500	0.12728						
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	24	23	0.11826	0.02521	0.12289	0.01112	0.00290	9.05%	0.00362	5.48%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.12000							
131.05	Methionine, PAO Pre-col AQC Der (%)	7	6	0.15050	0.07329	0.13327	0.03889	0.01985	29.18%	0.00633	5.42%
131.99	Methionine, Miscellaneous (%)	2	2	0.13250	0.03182						
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	24	23	0.41132	0.03844	0.40935	0.03907	0.01018	9.54%	0.00816	4.58%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.38450							

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132.05	Phenylalanine, Pre-col AQC Der (%)	7	7	0.37564	0.02619	0.37607	0.02872	0.01357	7.64%	0.00986	4.63%
133.00	Proline, Post-col Ninhydrin Der (%)	24	23	0.75501	0.04760	0.75199	0.03498	0.00912	4.65%	0.01440	4.18%
133.05	Proline, Pre-col AQC Der (%)	7	6	0.86550	0.14522	0.86550	0.16468	0.08404	19.03%	0.01367	4.09%
134.00	Serine, Post-col Ninhydrin Der (%)	24	23	0.49734	0.03449	0.49492	0.02514	0.00655	5.08%	0.00869	4.45%
134.02	Serine, Post-col OPA Der (%)	1	1	0.44300							
134.05	Serine, Pre-col AQC Der (%)	7	7	0.51086	0.02529	0.51086	0.02868	0.01355	5.61%	0.03114	4.43%
135.00	Threonine, Post-col Ninhydrin Der (%)	24	23	0.38637	0.02094	0.38471	0.01533	0.00400	3.99%	0.00499	4.62%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.37700							
135.05	Threonine, Pre-col AQC Der (%)	7	7	0.35357	0.02677	0.35357	0.03036	0.01434	8.59%	0.03971	4.68%
135.99	Threonine, Miscellaneous (%)	1	1	0.38000							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	8	8	0.09318	0.02100	0.09138	0.01946	0.00860	21.29%	0.00924	5.73%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.08217	0.00569	0.08217	0.00569	0.00411	6.92%	0.00500	5.83%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.09050							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	5	0.09500	0.00877	0.09500	0.00877	0.00490	9.23%	0.00080	5.70%
136.05	Tryptophan, Pre-col AQC Der (%)	1	1	0.09350							
136.99	Tryptophan, Miscellaneous (%)	1	1	0.05500							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	17	15	0.28361	0.06401	0.29336	0.03670	0.01185	12.51%	0.00968	4.81%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.28550							
137.05	Tyrosine, Pre-col AQC Der (%)	7	7	0.33693	0.05238	0.33693	0.05940	0.02806	17.63%	0.01529	4.71%
137.99	Tyrosine, Miscellaneous (%)	1	1	0.45935							
138.00	Valine, Post-col Ninhydrin Der (%)	24	23	0.49833	0.05288	0.49333	0.02792	0.00728	5.66%	0.00665	4.45%
138.02	Valine, Post-col OPA Der (%)	1	1	0.49300							
138.05	Valine, Pre-col AQC Der (%)	7	6	0.46250	0.03203	0.46250	0.03632	0.01854	7.85%	0.01100	4.49%
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.09800	0.07354						
139.02	Taurine, Post-col OPA Der (%)	1		0.01000							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.00750							
160.99	Fructose, Miscellaneous (%)	5	5	0.51300	0.10354	0.51300	0.10354	0.05788	20.18%	0.03000	4.42%
162.99	Glucose, Miscellaneous (%)	5	4	0.25088	0.06475	0.25088	0.06475	0.04673	25.81%	0.00525	4.93%
163.99	Lactose, Miscellaneous (%)	4									
164.99	Maltose, Miscellaneous (%)	3	1								
165.99	Sucrose, Miscellaneous (%)	4	2	0.91075	0.01520	0.91075	0.01520			0.00050	4.06%
166.99	Raffinose, Miscellaneous (%)	2	2	0.15800	0.01838						
167.99	Stachyose, Miscellaneous (%)	2	2	0.23200	0.04525						
351.00	Chlortetracycline, Plate (mg/kg (ppm))	2	2	998.91	55.665						
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	9	9	857.83	106.81	854.80	114.29	47.622	13.37%	51.688	5.79%
351.04	Chlortetracycline, LC-MS (mg/kg (ppm))	1	1	750.00							
351.05	Chlortetracycline, LC-MS/MS (mg/kg (ppm))	2	2	805.28	263.00						
361.02	Lasalocid Sodium, LC (mg/kg (ppm))	2	2	2.6380	0.08765						
361.03	Lasalocid Sodium, LC (UV or FL) (mg/kg (ppm))	2	2	2.6455	0.18314						
361.05	Lasalocid Sodium, LC-MS/MS (mg/kg (ppm))	4	4	2.9275	1.1573	2.9275	1.1573	0.72331	39.53%	0.36000	13.61%

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365.00	Monensin, Plate (mg/kg (ppm))	1	1	33.970							
365.02	Monensin, LC (mg/kg (ppm))	6	6	29.968	0.74809	29.998	0.77586	0.39593	2.59%	0.32167	9.59%
365.03	Monensin, LC-PCD (mg/kg (ppm))	5	4	30.862	0.34645	30.862	0.34645	0.21653	1.12%	1.2843	9.55%
365.04	Monensin, LC-MS (mg/kg (ppm))	3	3	31.780	1.5692	31.780	1.5692	1.1325	4.94%	0.59920	9.51%
365.05	Monensin, LC-MS/MS (mg/kg (ppm))	8	7	28.191	8.8262	29.082	7.8462	3.7070	26.98%	1.1900	9.63%
365.99	Monensin, Miscellaneous (mg/kg (ppm))	3	3	35.077	4.1262	35.077	4.1262	2.9778	11.76%	1.3800	9.36%
373.03	Oxytetracycline, LC (mg/kg (ppm))	3	3	935.72	36.688	935.72	36.688	26.477	3.92%	45.300	5.71%
373.04	Oxytetracycline, LC, AOAC (mg/kg (ppm))	2	2	922.75	176.42						
373.05	Oxytetracycline, LC-MS (mg/kg (ppm))	1	1	897.50							
373.06	Oxytetracycline, LC-MS/MS (mg/kg (ppm))	2	2	543.99	85.404						
373.99	Oxytetracycline, Miscellaneous (mg/kg (ppm))	1	1	787.50							
388.00	Tylosin, Plate (mg/kg (ppm))	2	2	106.55	18.418						
388.03	Tylosin, LC (mg/kg (ppm))	3	3	90.065	50.969	90.065	50.969	36.784	56.59%	16.963	8.13%
388.05	Tylosin, LC-MS/MS (mg/kg (ppm))	4	4	69.913	24.739	69.913	24.739	15.462	35.39%	8.2250	8.44%
388.99	Tylosin, Miscellaneous (mg/kg (ppm))	1	1	52.420							
400.01	Water Activity, Aqualab chilled mirror (Units)	7	7	0.55580	0.00938	0.55444	0.00724	0.00342	1.31%	0.00240	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.55725	0.01167						
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	8.6950							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	1	1	0.57350							
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	2	1	1.1449							
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.59100	0.06894	0.59100	0.06894	0.04975	11.66%	0.03467	17.31%
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	6	6	0.71147	0.11508	0.71147	0.13051	0.06660	18.34%	0.01523	16.84%
518.31	Cadmium, AAS, Dry ash (mg / kg (ppm))	1		0.30000							
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	1	1	0.21750							
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	2	1	0.28150							
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.28550	0.01354	0.28550	0.01354	0.00977	4.74%	0.01567	19.32%
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	7	7	0.28343	0.02908	0.28569	0.02759	0.01304	9.66%	0.01503	19.32%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	1	1	13.542							
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	2	2	24.723	1.8060						
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	3	3	24.530	6.4083	24.530	6.4083	4.6248	26.12%	0.06667	9.88%
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	10.850							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	4	3	26.148	8.6712	26.148	8.6712	7.6643	33.16%	0.83277	9.79%
526.31	Lead, AAS, Dry ash (mg / kg (ppm))	1		3.0000							
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	2	2	0.30100	0.07212						
526.43	Lead, ICP, Microwave (mg / kg (ppm))	1		5.0000							
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.36867	0.11402	0.36867	0.11402	0.08229	30.93%	0.04667	18.59%
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	7	7	0.30814	0.03305	0.30814	0.03748	0.01771	12.16%	0.03630	19.10%
529.99	Mercury, Miscellaneous (µg / kg (ppb))	1	1	5.0370							
539.42	Nickel, ICP, Open vessel (mg / kg (ppm))	1	1	7.8500							
539.43	Nickel, ICP, Microwave (mg / kg (ppm))	1	1	16.000							

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
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	6.0550							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	2	2	12.345	5.1691						
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.00000							
704.00	Caproic Acid (6:0) , Miscellaneous GC (%)	1	1	0.00100							
706.01	Caprylic acid (8:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
708.01	Capric acid (10:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
710.01	Lauric Acid (12:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3	2	0.00235	0.00092	0.00235	0.00092			0.00000	
714.01	Myristic Acid (14:0) , Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.03400							
714.99	Myristic Acid (14:0) , Miscellaneous (% (w/w))	2	2	0.01480	0.00735						
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.53650							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.50773	0.06686						
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.03200							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	3	0.02148	0.00738	0.02148	0.00738	0.00533	34.36%	0.00043	
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.09800							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	1	1	0.10975							
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.65100							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.60990	0.02135						
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	1.1950							
726.02	Linoleic Acid (9c,12c-18:2), Direct Methylation by Acid-Alkali Hydrolysis & GC (%)	1	1	0.81200							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	0.97485	0.10028	0.97485	0.10028	0.07237	10.29%	0.02123	
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis	1	1	0.08650							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	4	3	0.09498	0.01476	0.09498	0.01476	0.01065	15.54%	0.00197	
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	1	1	0.01065							
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.02650							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.00885							
736.01	Arachidonic Acid (5c,8c,11c,14c-20:4), Direct Methylation by Alkali Hydrolysis	1		0.00000							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1	1	0.00300							
738.01	Mead Acid (11c,14c,17c-20:3), Direct Methylation by Alkali Hydrolysis & GC (%)	1		0.00000							
740.01	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Direct Methylation by Al	1		0.00000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	1		0.00000							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	1	0.00740							
744.01	Erucic Acid (13c-22:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.00000							
746.01	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Direct Methylation	1		0.00000							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	1		0.00000							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	1	1	0.01225							
750.01	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Direct Methylation	1		0.00000							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	1		0.00000							

Test Material Code # 201828

Issue Date : 09/30/2018

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
752.01	Nervonic Acid (24:1) isomers, Direct Methylation by Alkali Hydrolysis & GC (%)	1		0.00000							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	1		0.00000							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	3	3	1.1500	1.8187	1.1500	1.8187	1.6075	158.15%	0.03333	
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	3	3	12.947	20.744	12.947	20.744	18.335	160.22%	0.61333	
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	2	2	13.890	18.540						
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	2	2	14.880	20.039						
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	2	2	20.560	27.704						
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	2.4349	0.07792						

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

Method Precision Report

Methods Reported: 92

Beef Feed

Labs Reporting: 193

Test Material Code # 201828

Issue Date : 09/30/2018

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 (%)	47	43	9.0227	0.44609	0.33679	0.11037	0.35442	3.71%	1.216%	3.90%	3.2111
001.99	Loss on Drying, Miscellaneous (%)	20	17	8.8072	0.68885	0.53796	0.10146	0.54744	6.02%	1.135%	6.12%	5.3955
002.01	Protein, Crude, Auto Kjel-Foss (%)	15	15	11.934	0.24400	0.23489	0.09341	0.25278	1.97%	0.783%	2.12%	2.7061
002.05	Protein, Crude, Copper, Boric Acid (%)	34	31	11.985	0.41757	0.29647	0.05348	0.30126	2.49%	0.449%	2.53%	5.6330
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	117	111	12.114	0.40927	0.26072	0.12338	0.28844	2.16%	1.020%	2.39%	2.3378
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	13	13	2.4840	0.33454	0.32480	0.11332	0.34400	13.08%	4.562%	13.85%	3.0356
003.06	Fat, Crude, Pet Ether (%)	15	15	2.3484	0.31518	0.30481	0.11338	0.32522	12.98%	4.828%	13.85%	2.8683
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	17	16	2.4701	0.27546	0.27337	0.06773	0.28164	11.00%	2.726%	11.33%	4.1580
003.10	Fat, Crude, Randall, Pet Ether (%)	32	30	2.2311	0.41703	0.26838	0.10827	0.28940	12.25%	4.942%	13.21%	2.6729
003.13	Fat, Crude, Randall, Hexane Ext. (%)	10	9	2.3211	0.20307	0.19947	0.05383	0.20660	8.59%	2.319%	8.90%	3.8382
003.14	Fat, Crude, Ankom (%)	46	44	2.0750	0.37301	0.31243	0.10015	0.32809	14.92%	4.784%	15.67%	3.2761
004.00	Fiber, Crude, Asbestos Free (%)	15	14	18.307	1.2025	0.77739	0.33670	0.84718	4.30%	1.863%	4.69%	2.5161
004.06	Fiber, Crude, Fibertec (%)	24	22	17.641	0.60496	0.59506	0.15415	0.61471	3.37%	0.874%	3.48%	3.9878
004.07	Fiber, Crude, ANKOM (%)	64	61	18.219	1.9427	1.3862	0.37916	1.4371	7.70%	2.106%	7.98%	3.7903
005.00	Ash, 2h @ 600°C (%)	96	91	16.797	0.47506	0.42291	0.16154	0.45271	2.52%	0.961%	2.69%	2.8025
005.05	Ash, 3h @ 550°C (%)	30	28	17.481	0.45697	0.45702	0.10821	0.46966	2.62%	0.619%	2.69%	4.3404
005.99	Ash, Miscellaneous (%)	11	9	17.197	1.1136	0.74850	0.19215	0.77277	4.29%	1.102%	4.43%	4.0218
008.02	Fiber, Acid Detergent, Crucible (%)	16	16	23.200	2.1820	2.1748	0.24965	2.1891	9.37%	1.076%	9.44%	8.7689
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	37	35	22.170	1.3939	1.3913	0.33271	1.4305	6.28%	1.502%	6.46%	4.2996
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	14	13	37.193	1.6926	1.1299	0.43764	1.2117	3.07%	1.187%	3.29%	2.7687
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	37	35	35.125	1.7384	1.7205	0.35221	1.7561	4.90%	1.003%	5.00%	4.9860
010.99	Moisture, Miscellaneous (%)	15	13	9.3691	0.73603	0.51572	0.12348	0.53030	5.62%	1.345%	5.77%	4.2945
011.01	Loss on Drying, 135°C 2hr (%)	71	66	10.042	0.54212	0.42628	0.15107	0.45226	4.23%	1.498%	4.48%	2.9937
012.00	Starch, Polarimetric (Ewers) (%)	16	13	9.7464	0.52034	0.27336	0.11853	0.29795	2.80%	1.213%	3.05%	2.5137
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	10	10	8.8757	1.1364	1.1207	0.26609	1.1519	12.63%	2.998%	12.98%	4.3288
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	16	3.0342	0.50562	0.49940	0.11185	0.51177	16.46%	3.686%	16.87%	4.5756
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	16	3.6025	0.58346	0.39199	0.10103	0.40480	11.17%	2.878%	11.53%	4.0067
019.00	Calcium, Ox-Mn04 Vol. (%)	9	8	3.4612	0.16585	0.17649	0.01974	0.17759	5.09%	0.570%	5.13%	8.9955
019.08	Calcium, EDTA (%)	12	9	3.2776	0.56823	0.22815	0.06221	0.23648	6.57%	1.790%	6.81%	3.8011
019.31	Calcium, AAS, Dry ash (%)	23	21	3.5225	0.20715	0.20770	0.05326	0.21442	5.89%	1.510%	6.08%	4.0258
019.41	Calcium, ICP, Dry ash (%)	30	29	3.4203	0.16277	0.15764	0.05732	0.16774	4.61%	1.676%	4.90%	2.9262
019.42	Calcium, ICP, Open vessel (%)	18	15	3.4516	0.12841	0.08287	0.07394	0.11106	2.38%	2.124%	3.19%	1.5021
019.43	Calcium, ICP, Microwave (%)	30	28	3.4443	0.16113	0.15654	0.06450	0.16930	4.54%	1.871%	4.91%	2.6250
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	15	13	222.67	20.697	13.412	6.5504	14.926	5.89%	2.877%	6.56%	2.2787
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	23	202.56	20.223	19.193	9.0112	21.203	9.48%	4.449%	10.47%	2.3530

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))	19	18	249.28	15.295	8.1611	6.9449	10.716	3.24%	2.755%	4.25%	1.5430
022.43	Copper, ICP, Microwave (mg / kg (ppm))	29	28	246.80	13.265	11.966	8.0952	14.447	4.85%	3.280%	5.85%	1.7847
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	15	13	903.79	47.903	44.790	21.902	49.858	4.98%	2.434%	5.54%	2.2764
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	22	21	858.88	78.908	56.861	30.057	64.317	6.54%	3.455%	7.39%	2.1398
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	14	12	772.32	193.44	167.01	14.764	167.66	20.81%	1.840%	20.90%	11.356
025.43	Iron, ICP, Microwave (mg / kg (ppm))	21	19	913.40	86.228	55.486	21.009	59.330	6.17%	2.334%	6.59%	2.8240
027.31	Magnesium, AAS, Dry ash (%)	13	11	0.53444	0.08190	0.02116	0.00690	0.02225	3.80%	1.239%	4.00%	3.2243
027.41	Magnesium, ICP, Dry ash (%)	25	22	0.54393	0.02555	0.02594	0.00736	0.02696	4.78%	1.356%	4.97%	3.6623
027.42	Magnesium, ICP, Open vessel (%)	17	15	0.54681	0.02305	0.02221	0.01207	0.02528	4.06%	2.205%	4.62%	2.0949
027.43	Magnesium, ICP, Microwave (%)	28	26	0.54965	0.03835	0.03214	0.01575	0.03579	5.81%	2.847%	6.47%	2.2722
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	13	12	530.50	32.606	20.575	9.9918	22.873	3.83%	1.859%	4.26%	2.2891
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	23	22	511.28	43.603	33.047	15.385	36.453	6.39%	2.976%	7.05%	2.3694
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	18	16	532.96	24.105	24.066	8.9133	25.663	4.52%	1.673%	4.82%	2.8792
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	27	26	548.36	27.270	26.049	13.752	29.456	4.75%	2.507%	5.37%	2.1419
031.01	Phosphorus, Photometric (%)	44	41	1.0720	0.06482	0.05317	0.02138	0.05731	4.94%	1.988%	5.33%	2.6805
031.41	Phosphorus, ICP, Dry ash (%)	29	28	1.0898	0.04968	0.04695	0.01963	0.05089	4.32%	1.805%	4.68%	2.5922
031.42	Phosphorus, ICP, Open vessel (%)	19	17	1.0767	0.05087	0.03196	0.03355	0.04634	2.94%	3.086%	4.26%	1.3810
031.43	Phosphorus, ICP, Microwave (%)	27	25	1.0974	0.13090	0.05196	0.03307	0.06159	4.71%	2.998%	5.58%	1.8626
032.31	Potassium, AAS, Dry ash (%)	12	11	1.2798	0.04267	0.04050	0.01900	0.04473	3.16%	1.485%	3.50%	2.3545
032.41	Potassium, ICP, Dry ash (%)	27	25	1.2887	0.05918	0.04663	0.02253	0.05179	3.59%	1.736%	3.99%	2.2983
032.42	Potassium, ICP, Open vessel (%)	18	16	1.3022	0.03794	0.03048	0.03329	0.04513	2.34%	2.553%	3.46%	1.3559
032.43	Potassium, ICP, Microwave (%)	28	27	1.3300	0.06828	0.04734	0.03662	0.05985	3.58%	2.770%	4.53%	1.6344
033.00	Salt as chloride, Sol Cl (%)	22	18	3.2533	0.43783	0.20437	0.03959	0.20816	6.05%	1.173%	6.17%	5.2584
033.01	Salt as chloride, Poten Cl (%)	35	33	3.5390	0.09305	0.08387	0.04555	0.09545	2.38%	1.290%	2.70%	2.0952
033.99	Salt, Miscellaneous (%)	9	8	3.6052	0.26861	0.13084	0.15642	0.20393	3.70%	4.427%	5.77%	1.3037
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	9	9	5.8228	1.1120	1.1003	0.22746	1.1236	18.90%	3.906%	19.30%	4.9399
035.31	Sodium, AAS, Dry ash (%)	18	16	1.2627	0.08454	0.08355	0.01816	0.08551	6.62%	1.438%	6.77%	4.7086
035.41	Sodium, ICP, Dry ash (%)	26	24	1.2328	0.07579	0.07191	0.03003	0.07793	5.80%	2.423%	6.29%	2.5951
035.42	Sodium, ICP, Open vessel (%)	14	13	1.2704	0.06368	0.06199	0.03212	0.06982	4.89%	2.531%	5.50%	2.1740
035.43	Sodium, ICP, Microwave (%)	24	23	1.2650	0.12529	0.07140	0.03616	0.08003	5.55%	2.813%	6.23%	2.2134
036.42	Sulfur, ICP, Open vessel (%)	17	16	0.37800	0.03185	0.02051	0.01112	0.02333	5.51%	2.986%	6.27%	2.0985
036.43	Sulfur, ICP, Microwave (%)	14	13	0.38572	0.02444	0.02389	0.00729	0.02498	6.19%	1.889%	6.48%	3.4282
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	14	12	687.27	60.003	40.494	11.394	42.067	5.78%	1.628%	6.01%	3.6919
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	23	663.23	43.438	40.906	20.667	45.830	6.17%	3.116%	6.91%	2.2176
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	17	16	714.24	36.085	34.384	18.693	39.137	4.81%	2.612%	5.47%	2.0936
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	26	25	718.78	41.834	39.906	17.756	43.678	5.55%	2.470%	6.08%	2.4599
106.02	Vitamin A, LC (KU / kg)	21	18	27.448	16.250	10.108	1.2502	10.185	42.22%	5.222%	42.54%	8.1465
109.02	Vitamin E, LC (IU / kg)	14	12	37.954	13.988	11.328	1.8186	11.473	28.05%	4.504%	28.41%	6.3085
120.00	Alanine, Post-col Ninhydrin Der (%)	24	22	0.65417	0.04674	0.03283	0.01234	0.03508	5.07%	1.907%	5.42%	2.8420
121.00	Arginine, Post-col Ninhydrin Der (%)	24	22	0.47549	0.03189	0.01780	0.01159	0.02124	3.74%	2.439%	4.47%	1.8321
122.00	Aspartic, Post-col Ninhydrin Der (%)	24	22	0.78626	0.04968	0.03930	0.00906	0.04033	5.04%	1.162%	5.17%	4.4510
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	24	23	0.20243	0.04322	0.02223	0.00801	0.02363	10.59%	3.815%	11.26%	2.9502
125.00	Glutamic, Post-col Ninhydrin Der (%)	24	22	1.6456	0.11778	0.08497	0.01860	0.08698	5.24%	1.147%	5.36%	4.6767

Test Material Code # 201828

Issue Date : 09/30/2018

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
126.00	Glycine, Post-col Ninhydrin Der (%)	24	20	0.58166	0.03399	0.02744	0.00566	0.02802	4.76%	0.981%	4.86%	4.9534
127.00	Histidine, Post-col Ninhydrin Der (%)	24	22	0.27354	0.03329	0.02075	0.00403	0.02114	7.74%	1.503%	7.89%	5.2483
128.00	Isoleucine, Post-col Ninhydrin Der (%)	24	22	0.34326	0.02873	0.01603	0.00524	0.01686	4.67%	1.526%	4.91%	3.2188
129.00	Leucine, Post-col Ninhydrin Der (%)	24	23	0.80205	0.04136	0.03498	0.00967	0.03630	4.39%	1.212%	4.55%	3.7550
130.00	L-Lysine, Post-col Ninhydrin Der (%)	24	22	0.40965	0.03952	0.02734	0.00668	0.02814	6.77%	1.652%	6.96%	4.2153
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	24	21	0.11826	0.02521	0.01070	0.00317	0.01116	8.68%	2.571%	9.06%	3.5218
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	24	22	0.41132	0.03844	0.03904	0.00658	0.03959	9.49%	1.598%	9.62%	6.0212
133.00	Proline, Post-col Ninhydrin Der (%)	24	21	0.75501	0.04760	0.03108	0.01184	0.03326	4.14%	1.579%	4.43%	2.8085
134.00	Serine, Post-col Ninhydrin Der (%)	24	23	0.49734	0.03449	0.03398	0.00834	0.03499	6.83%	1.676%	7.03%	4.1975
135.00	Threonine, Post-col Ninhydrin Der (%)	24	20	0.38637	0.02094	0.01805	0.00356	0.01839	4.71%	0.929%	4.80%	5.1640
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	8	8	0.09318	0.02100	0.01983	0.00976	0.02210	21.28%	10.475%	23.72%	2.2643
137.00	Tyrosine, Post-col Ninhydrin Der (%)	17	14	0.28361	0.06401	0.03334	0.01004	0.03481	11.19%	3.370%	11.69%	3.4689
138.00	Valine, Post-col Ninhydrin Der (%)	24	21	0.49833	0.05288	0.03292	0.00587	0.03344	6.62%	1.181%	6.73%	5.6927
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	9	9	857.83	106.81	101.09	48.787	112.25	11.78%	5.687%	13.08%	2.3007

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