

Animal Feed Scheme
Equine Feed
Test Material Code # 201921

Method Summary Report
(Precision Report Follows)

Methods Reported: 412
Labs Reporting: 175
Issue Date : 02/28/2019

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	2	2	0.2432	0.0804						
001.00	Loss on Drying, Vac 95°C 5 hr (%)	4	3	7.970	0.1146	7.970	0.1146	0.0661	1.44%	0.0153	2.93%
001.03	Loss on Drying, Low temp. methods (%)	3	3	8.020	0.1333	8.020	0.1333	0.0770	1.66%	0.0133	2.92%
001.05	Loss on Drying, LECO (%)	1	1	7.820							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	41	38	7.904	0.3377	7.894	0.2691	0.0546	3.41%	0.0879	2.93%
001.99	Loss on Drying, Miscellaneous (%)	23	23	7.851	0.5014	7.912	0.3618	0.0943	4.57%	0.1131	2.93%
002.01	Protein, Crude, Auto Kjel-Foss (%)	10	10	14.96	0.2670	14.95	0.3028	0.1197	2.02%	0.1434	2.59%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	3	3	14.98	0.1562	14.98	0.1562	0.0902	1.04%	0.0541	2.58%
002.03	Protein, Crude, Hach Method (%)	1	1	14.70							
002.04	Protein, Crude, Copper Catalyst (%)	4	4	15.83	1.632	15.83	1.632	0.8162	10.32%	0.0350	2.51%
002.05	Protein, Crude, Copper, Boric Acid (%)	32	31	14.98	0.3398	15.00	0.1744	0.0392	1.16%	0.1050	2.58%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	113	110	15.28	0.3724	15.26	0.2675	0.0319	1.75%	0.1248	2.56%
002.08	Protein, Crude, Cu/Ti (%)	2	2	15.22	0.1495						
002.10	Protein, Crude, Block dig/distillation (%)	1	1	14.89							
002.11	Protein, Crude, NIR (%)	5	3	14.75	0.7864	14.75	0.7864	0.4540	5.33%	0.1080	2.60%
002.99	Protein, Crude, Miscellaneous (%)	1	1	14.98							
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	10	10	7.851	1.698	8.311	0.4135	0.1635	4.98%	0.1940	2.91%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	9.245							
003.06	Fat, Crude, Pet Ether (%)	18	18	8.026	1.368	8.378	0.3778	0.1113	4.51%	0.0871	2.90%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	15	14	8.415	0.1710	8.427	0.1552	0.0518	1.84%	0.1602	2.90%
003.10	Fat, Crude, Randall, Pet Ether (%)	28	27	8.109	0.2828	8.108	0.3195	0.0769	3.94%	0.0945	2.92%
003.11	Fat, Crude, NIR (%)	6	6	8.755	1.299	8.755	1.473	0.7518	16.83%	0.0268	2.89%
003.12	Fat, Crude, Hexane Ext (%)	5	5	8.761	0.2779	8.761	0.2779	0.1243	3.17%	0.1940	2.89%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	11	10	8.029	1.007	8.294	0.2841	0.1123	3.43%	0.1463	2.91%
003.14	Fat, Crude, Ankom (%)	39	38	6.409	1.770	6.439	1.938	0.3930	30.10%	0.1703	3.02%
003.99	Fat, Crude, Miscellaneous (%)	2	2	6.661	3.074						
004.00	Fiber, Crude, Asbestos Free (%)	14	13	14.80	0.4931	14.77	0.4023	0.1395	2.72%	0.1665	2.60%
004.01	Fiber, Crude, Sing Filt (%)	1	1	14.15							
004.03	Fiber, Crude, Fritted Glass (%)	8	7	14.87	1.705	14.91	1.844	0.8714	12.37%	0.3004	2.59%
004.06	Fiber, Crude, Fibertec (%)	20	19	15.22	1.266	15.02	0.7283	0.2088	4.85%	0.2270	2.58%
004.07	Fiber, Crude, ANKOM (%)	71	70	15.23	0.9334	15.18	0.8938	0.1335	5.89%	0.2479	2.57%
004.11	Fiber, Crude, NIR (%)	5	4	12.40	2.167	12.40	2.167	1.083	17.47%	0.0350	2.74%

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004.99	Fiber, Crude, Miscellaneous (%)	5	4	13.99	0.8468	13.99	0.8468	0.4234	6.05%	0.1450	2.67%
005.00	Ash, 2h @ 600°C (%)	93	92	8.234	0.2362	8.230	0.2386	0.0311	2.90%	0.0865	2.91%
005.02	Ash, LECO (%)	1	1	8.565							
005.05	Ash, 3h @ 550°C (%)	33	32	8.429	0.1959	8.440	0.1943	0.0429	2.30%	0.0491	2.90%
005.11	Ash, NIR (%)	4	4	7.714	2.053	7.714	2.053	1.027	26.62%	0.1552	2.94%
005.99	Ash, Miscellaneous (%)	7	7	8.481	0.2402	8.520	0.1708	0.0807	2.00%	0.1269	2.90%
006.00	Total Sugars, As sucrose (%)	2	2	3.970	0.5798						
006.99	Total Sugars, Miscellaneous (%)	1	1	4.000							
008.02	Fiber, Acid Detergent, Crucible (%)	15	15	19.50	0.8459	19.58	0.7400	0.2388	3.78%	0.2875	2.26%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	20.20							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	41	19.57	1.170	19.54	1.140	0.2226	5.83%	0.2473	2.26%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	2	2	19.26	0.0530						
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	35.85							
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	14	13	37.06	2.049	37.10	2.222	0.7704	5.99%	0.5686	1.64%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	41	40	36.45	1.805	36.23	1.373	0.2714	3.79%	0.3858	1.66%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	1	1	30.65							
010.03	Moisture, Karl-Fischer (%)	1	1	6.835							
010.11	Moisture, NIR (%)	3	3	8.570	1.941	8.570	1.941	1.121	22.65%	0.0443	2.89%
010.99	Moisture, Miscellaneous (%)	15	14	8.228	0.5754	8.178	0.5277	0.1763	6.45%	0.0520	2.92%
011.01	Loss on Drying, 135°C 2hr (%)	66	64	8.668	0.5180	8.724	0.3683	0.0575	4.22%	0.0904	2.89%
011.02	Loss on Drying, 130°C for 2 hours (%)	3	3	8.630	0.3537	8.630	0.3537	0.2501	4.10%	0.1200	2.89%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	8.960	0.7920						
012.00	Starch, Polarimetric (Ewers) (%)	14	14	14.53	0.7983	14.65	0.5633	0.1882	3.85%	0.1519	2.61%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	11	12.39	1.413	12.28	1.363	0.5138	11.10%	0.4163	2.74%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	5	5	13.28	0.5990	13.28	0.5990	0.2679	4.51%	0.3220	2.71%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	4	3	12.13	0.6225	12.13	0.6225	0.3594	5.13%	0.0833	2.75%
012.11	Starch, NIR (%)	4	4	14.25	9.780	14.25	9.780	4.890	68.62%	0.1643	2.65%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	18	18	9.049	0.7728	9.085	0.7918	0.2333	8.72%	0.2303	2.87%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	18	9.515	0.7020	9.550	0.6418	0.1891	6.72%	0.2868	2.85%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	6.998							
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	4	3	9.020	0.2234	9.020	0.2234	0.1290	2.48%	0.0234	2.87%
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	8.604							
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	7	7	9.752	1.495	9.561	1.223	0.5776	12.79%	0.3219	2.85%
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	5	4	182.8	9.477	182.8	9.477	4.738	5.18%	0.9487	7.30%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	192.2							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	7	7	207.3	15.28	207.0	16.68	7.879	8.06%	25.52	7.17%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	131.5							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	1	1	208.8							
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	5	4	11.47	0.7499	11.47	0.7499	0.3749	6.54%	0.1849	11.08%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	6	6	11.11	1.023	11.01	0.8991	0.4588	8.17%	0.9358	11.15%

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017.43	Boron, ICP, Microwave (mg / kg (ppm))	6	5	10.50	2.677	10.50	2.677	1.496	25.49%	0.2140	11.23%
017.53	Boron, ICP-MS, Microwave (mg / kg (ppm))	1	1	13.45							
019.00	Calcium, Ox-Mn04 Vol. (%)	8	8	1.210	0.0864	1.203	0.0818	0.0362	6.80%	0.0380	3.89%
019.02	Calcium, Hach Method (%)	1	1	1.284							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	1.253							
019.08	Calcium, EDTA (%)	13	12	1.236	0.0369	1.236	0.0416	0.0150	3.37%	0.0246	3.87%
019.09	Calcium, Ion-selective electrode (%)	1	1	1.422							
019.31	Calcium, AAS, Dry ash (%)	24	24	1.207	0.0810	1.200	0.0674	0.0172	5.62%	0.0356	3.89%
019.32	Calcium, AAS, Open vessel (%)	1	1	1.200							
019.33	Calcium, AAS, Microwave (%)	1	1	1.250							
019.35	Calcium, AAS, Open vessel (%)	1	1	1.205							
019.41	Calcium, ICP, Dry ash (%)	27	26	1.198	0.0627	1.203	0.0579	0.0142	4.81%	0.0244	3.89%
019.42	Calcium, ICP, Open vessel (%)	21	21	1.218	0.0929	1.221	0.0734	0.0200	6.01%	0.0300	3.88%
019.43	Calcium, ICP, Microwave (%)	24	24	1.211	0.0637	1.214	0.0607	0.0155	5.00%	0.0233	3.88%
019.44	Calcium, ICP, Dry ash (%)	1	1	1.200							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	1.285							
019.52	Calcium, ICP-MS, Open vessel (%)	4	4	1.224	0.0434	1.224	0.0434	0.0217	3.54%	0.0446	3.88%
019.53	Calcium, ICP-MS, Microwave (%)	3	3	1.130	0.1554	1.130	0.1554	0.0897	13.75%	0.0479	3.93%
019.99	Calcium, Miscellaneous (%)	5	4	1.241	0.0738	1.241	0.0738	0.0369	5.94%	0.0475	3.87%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	4	4	15.58	4.810	15.58	4.810	2.405	30.86%	0.5050	10.58%
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	5	5	11.70	2.020	11.70	2.020	0.9032	17.26%	0.3660	11.05%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	4	3	10.41	0.2005	10.41	0.2005	0.1158	1.93%	0.8820	11.24%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	5	5	12.46	1.622	12.46	1.622	0.7252	13.02%	0.3421	10.94%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	4	3	5.470	1.010	5.470	1.010	0.5833	18.47%	0.0733	12.39%
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	4	4	9.830	4.865	9.830	4.865	2.432	49.49%	0.8124	11.34%
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	16	16	118.9	14.38	122.2	6.769	2.115	5.54%	2.775	7.76%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	1	1	125.8							
022.33	Copper, AAS, Microwave (mg / kg (ppm))	2	2	127.8	7.787						
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	23	118.9	12.93	118.8	8.367	2.181	7.04%	3.752	7.79%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	21	21	128.4	8.021	127.6	6.494	1.771	5.09%	2.829	7.71%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	19	19	124.4	6.219	124.2	6.569	1.884	5.29%	5.644	7.74%
022.44	Copper, ICP, Dry ash (mg / kg (ppm))	1	1	108.0							
022.51	Copper, ICP-MS, Dry ash (mg / kg (ppm))	1	1	131.1							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	3	3	131.3	10.76	131.3	10.76	7.607	8.19%	9.767	7.68%
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	3	3	113.2	13.04	113.2	13.04	7.530	11.52%	2.333	7.85%
022.99	Copper, Miscellaneous (mg / kg (ppm))	4	4	121.9	6.993	121.9	6.993	3.496	5.74%	4.250	7.76%
024.52	Iodine, ICP-MS, Open vessel (mg / kg (ppm))	1	1	3.254							
024.53	Iodine, ICP-MS, Microwave (mg / kg (ppm))	1	1	2.145							
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	19	18	563.6	58.35	556.1	39.86	11.74	7.17%	11.62	6.18%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	963.7							

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025.33	Iron, AAS, Microwave (mg / kg (ppm))	1	1	681.6							
025.35	Iron, AAS, Open vessel (mg / kg (ppm))	1	1	468.5							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	22	22	530.5	56.39	536.3	45.71	12.18	8.52%	17.46	6.21%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	16	15	476.9	97.57	488.2	82.64	26.67	16.93%	12.51	6.30%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	16	15	559.9	47.31	559.9	53.65	17.31	9.58%	20.86	6.17%
025.51	Iron, ICP-MS, Dry ash (mg / kg (ppm))	1	1	629.5							
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	3	3	456.7	23.67	456.7	23.67	13.67	5.18%	30.46	6.36%
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	2	2	340.0	312.5						
025.99	Iron, Miscellaneous (mg / kg (ppm))	3	3	536.7	44.52	536.7	44.52	25.70	8.29%	7.333	6.21%
027.31	Magnesium, AAS, Dry ash (%)	16	16	0.4046	0.0219	0.4057	0.0220	0.0069	5.42%	0.0100	4.58%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.4200							
027.33	Magnesium, AAS, Microwave (%)	2	2	0.4238	0.0117						
027.41	Magnesium, ICP, Dry ash (%)	23	23	0.4094	0.0234	0.4093	0.0251	0.0065	6.13%	0.0098	4.58%
027.42	Magnesium, ICP, Open vessel (%)	20	19	0.4167	0.0325	0.4162	0.0261	0.0075	6.28%	0.0073	4.56%
027.43	Magnesium, ICP, Microwave (%)	21	21	0.4078	0.0267	0.4067	0.0281	0.0077	6.90%	0.0126	4.58%
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.4070							
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.3645							
027.52	Magnesium, ICP-MS, Open vessel (%)	4	4	0.4182	0.0581	0.4182	0.0581	0.0290	13.88%	0.0230	4.56%
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.4085	0.0518	0.4085	0.0518	0.0299	12.68%	0.0211	4.58%
027.99	Magnesium, Miscellaneous (%)	4	4	0.3925	0.0723	0.3925	0.0723	0.0361	18.42%	0.0150	4.60%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	16	16	215.6	12.42	215.6	14.04	4.387	6.51%	8.714	7.13%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	1	1	245.2							
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	1	1	208.0							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	21	211.3	14.64	212.3	13.51	3.684	6.36%	5.872	7.14%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	20	20	222.6	12.18	222.7	13.50	3.772	6.06%	6.187	7.09%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	18	17	218.3	11.05	218.4	12.19	3.694	5.58%	6.278	7.11%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	2	2	198.3	8.132						
028.51	Manganese, ICP-MS, Dry ash (mg / kg (ppm))	1	1	183.3							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	3	3	210.0	16.94	210.0	16.94	9.783	8.07%	7.000	7.15%
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	4	4	199.4	17.87	199.4	17.87	8.933	8.96%	5.113	7.21%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	4	4	215.6	19.85	215.6	19.85	9.924	9.20%	5.250	7.13%
031.01	Phosphorus, Photometric (%)	44	43	0.8028	0.0665	0.8078	0.0368	0.0070	4.56%	0.0142	4.13%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	2	2	0.8075	0.0035						
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.8114	0.0274	0.8114	0.0274	0.0194	3.38%	0.0084	4.13%
031.06	Phosphorus, Hach Method (%)	1	1	0.8525							
031.41	Phosphorus, ICP, Dry ash (%)	25	25	0.8153	0.0429	0.8158	0.0434	0.0108	5.32%	0.0196	4.12%
031.42	Phosphorus, ICP, Open vessel (%)	20	19	0.7945	0.0353	0.7966	0.0349	0.0100	4.38%	0.0142	4.14%
031.43	Phosphorus, ICP, Microwave (%)	23	22	0.8186	0.0360	0.8207	0.0335	0.0089	4.08%	0.0166	4.12%
031.44	Phosphorus, ICP, Dry ash (%)	1	1	0.7910							
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	0.7230							

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031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.7369	0.0327						
031.53	Phosphorus, ICP-MS, Microwave (%)	3	3	0.8118	0.1365	0.8118	0.1365	0.0788	16.81%	0.0613	4.13%
031.99	Phosphorus, Miscellaneous (%)	5	5	0.7570	0.1041	0.7570	0.1041	0.0465	13.75%	0.0100	4.17%
032.02	Potassium, Flame Emission (%)	1	1	1.090							
032.08	Potassium, Ion-selective electrode (%)	2	2	1.064	0.0651						
032.31	Potassium, AAS, Dry ash (%)	14	14	1.111	0.3272	1.146	0.0907	0.0303	7.91%	0.0173	3.92%
032.32	Potassium, AAS, Open vessel (%)	2	2	1.169	0.0021						
032.33	Potassium, AAS, Microwave (%)	1	1	1.235							
032.41	Potassium, ICP, Dry ash (%)	24	24	1.101	0.0730	1.106	0.0691	0.0176	6.25%	0.0317	3.94%
032.42	Potassium, ICP, Open vessel (%)	19	19	1.139	0.0491	1.140	0.0403	0.0116	3.54%	0.0275	3.92%
032.43	Potassium, ICP, Microwave (%)	25	23	1.117	0.0617	1.123	0.0540	0.0141	4.81%	0.0300	3.93%
032.44	Potassium, ICP, Dry ash (%)	1	1	1.105							
032.52	Potassium, ICP-MS, Open vessel (%)	3	3	1.056	0.1738	1.056	0.1738	0.1004	16.47%	0.0278	3.97%
032.53	Potassium, ICP-MS, Microwave (%)	3	3	1.183	0.1859	1.183	0.1859	0.1073	15.71%	0.0278	3.90%
032.99	Potassium, Miscellaneous (%)	5	5	1.059	0.1303	1.059	0.1303	0.0583	12.30%	0.0124	3.97%
033.00	Salt as chloride, Sol Cl (%)	18	18	0.8168	0.0967	0.8298	0.0509	0.0150	6.14%	0.0215	4.11%
033.01	Salt as chloride, Poten Cl (%)	25	25	0.8771	0.0364	0.8809	0.0249	0.0062	2.83%	0.0151	4.08%
033.03	Salt as chloride, Quantab (%)	3	3	0.6767	0.1561	0.6767	0.1561	0.0901	23.06%	0.0467	4.24%
033.05	Salt as chloride, Ion Sel Electrode (%)	2	2	0.7725	0.1237						
033.99	Salt, Miscellaneous (%)	10	9	0.7712	0.0872	0.7712	0.0989	0.0412	12.82%	0.0157	4.16%
034.04	Selenium, AA, Hydride (mg / kg (ppm))	4	4	1.821	0.2564	1.821	0.2564	0.1282	14.08%	0.1644	14.62%
034.31	Selenium, AAS, Dry ash (mg / kg (ppm))	1	1	2.175							
034.34	Selenium, AAS, Graphite furnace (mg / kg (ppm))	1	1	1.490							
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	1	1	2.335							
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	1		10.00							
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	3	3	2.303	0.8084	2.303	0.8084	0.4667	35.10%	0.2632	14.11%
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	5	5	2.168	0.4057	2.168	0.4057	0.1814	18.71%	0.1080	14.24%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	8	8	2.042	0.2681	2.042	0.3040	0.1344	14.88%	0.1562	14.37%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	2.825							
035.01	Sodium, Ion-selective electrode (%)	2	2	0.2695	0.0219						
035.05	Sodium, Flame Emission (%)	3	3	0.2800	0.0218	0.2800	0.0218	0.0154	7.78%	0.0400	4.84%
035.31	Sodium, AAS, Dry ash (%)	18	18	0.2939	0.0336	0.2955	0.0254	0.0075	8.60%	0.0054	4.81%
035.32	Sodium, AAS, Open vessel (%)	2	2	0.2950	0.0092						
035.41	Sodium, ICP, Dry ash (%)	24	24	0.2897	0.0160	0.2896	0.0172	0.0044	5.93%	0.0101	4.82%
035.42	Sodium, ICP, Open vessel (%)	17	17	0.2870	0.0148	0.2868	0.0146	0.0044	5.08%	0.0071	4.83%
035.43	Sodium, ICP, Microwave (%)	22	22	0.2884	0.0292	0.2866	0.0280	0.0075	9.75%	0.0095	4.83%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.2520							
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.2723	0.0293						
035.53	Sodium, ICP-MS, Microwave (%)	3	3	0.2864	0.0241	0.2864	0.0241	0.0139	8.40%	0.0234	4.83%
035.99	Sodium, Miscellaneous (%)	5	4	0.2426	0.0714	0.2426	0.0714	0.0412	29.42%	0.0013	4.95%

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036.04	Sulfur, LECO (%)	3	3	0.2645	0.0194	0.2645	0.0194	0.0137	7.32%	0.0130	4.89%
036.42	Sulfur, ICP, Open vessel (%)	20	20	0.2567	0.0170	0.2569	0.0171	0.0048	6.65%	0.0034	4.91%
036.43	Sulfur, ICP, Microwave (%)	16	16	0.2652	0.0196	0.2652	0.0223	0.0070	8.40%	0.0075	4.88%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.2474	0.0118						
036.99	Sulfur, Miscellaneous (%)	2	2	0.2500	0.0141						
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	18	17	431.4	26.25	428.7	19.92	6.040	4.65%	8.846	6.43%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	1	1	433.4							
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	2	2	442.6	3.403						
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	23	424.7	25.95	424.3	27.23	7.098	6.42%	15.64	6.44%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	19	19	426.2	30.03	426.3	31.60	9.061	7.41%	13.46	6.43%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	20	20	446.3	32.75	445.4	33.68	9.413	7.56%	19.71	6.39%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	1	1	392.0							
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	3	3	397.4	58.21	397.4	58.21	33.61	14.65%	4.567	6.50%
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	3	3	386.0	55.13	386.0	55.13	31.83	14.28%	14.00	6.53%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	5	4	435.3	57.93	435.3	57.93	28.96	13.31%	11.55	6.41%
038.34	Molybdenum, AAS, Graphite furnace (mg / kg (ppm))	1	1	3.500							
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	3	3	3.313	0.1888	3.313	0.1888	0.1335	5.70%	0.0524	13.36%
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	3	3.886	0.3596	3.886	0.3596	0.2076	9.25%	0.1393	13.04%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	8	8	3.482	0.4995	3.482	0.5665	0.2504	16.27%	0.3657	13.26%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	2	2	2.800	0.2828						
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	5	5	3.294	0.8550	3.294	0.8550	0.3824	25.96%	0.1655	13.37%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	11.98							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	10.94							
042.00	Chloride, Titrimetric (%)	1	1	0.5350							
042.01	Chloride, Ion-selective electrode (%)	1	1	0.5465							
042.99	Chloride, Miscellaneous (%)	1	1	0.5200							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	246.0							
102.02	Niacin, LC (mg / kg (ppm))	2	2	112.5	17.48						
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	29.70							
103.02	Pantothenic Acid, LC (mg / kg (ppm))	1	1	28.60							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	2	2	19.93	0.6010						
104.03	Riboflavin, LC (mg / kg (ppm))	5	5	16.50	3.395	16.50	3.395	1.518	20.57%	1.171	10.49%
105.00	Thiamine, LC (mg / kg (ppm))	2	2	14.50	1.701						
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	18.30							
106.00	Vitamin A, Color (KU / kg)	2	2	26.85	0.5646						
106.01	Vitamin A, UV (KU / kg)	1	1	27.25							
106.02	Vitamin A, LC (KU / kg)	13	12	22.18	7.060	22.72	6.670	2.407	29.35%	1.050	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	165.0							
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	5.550							
108.02	Vitamin D3, LC (KU / kg)	3	3	8.837	7.297	8.837	7.297	4.213	82.58%	0.9667	

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109.02	Vitamin E, LC (IU / kg)	10	10	407.2	88.00	426.9	39.94	15.79	9.35%	21.48	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	446.5							
111.98	Vitamin C, Ascorbic Acid, Miscellaneous (mkg/kg (ppm))	1		20.00							
112.01	Pyridoxine, LC (µg / g)	2	2	10.82	0.3323						
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	2.015							
114.99	Biotin, Miscellaneous (mg / kg (ppm))	1		10.00							
115.99	Non Protein N (NPN), Miscellaneous (%)	1	1	0.4300							
120.00	Alanine, Post-col Ninhydrin Der (%)	20	20	0.6648	0.0483	0.6686	0.0303	0.0085	4.53%	0.0100	4.25%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.6895							
120.05	Alanine, Pre-col AQC Der (%)	5	4	0.6641	0.0082	0.6641	0.0082	0.0041	1.24%	0.0043	4.25%
121.00	Arginine, Post-col Ninhydrin Der (%)	20	20	0.9175	0.0637	0.9227	0.0478	0.0134	5.18%	0.0171	4.05%
121.01	Arginine, Pre-col OPA Der (%)	1	1	0.9845							
121.02	Arginine, Post-col OPA Der (%)	1	1	0.8910							
121.05	Arginine, Pre-col AQC Der (%)	5	4	0.9010	0.0208	0.9010	0.0208	0.0120	2.31%	0.0065	4.06%
122.00	Aspartic, Post-col Ninhydrin Der (%)	20	19	1.202	0.0780	1.212	0.0398	0.0114	3.28%	0.0159	3.89%
122.01	Aspartic, Pre-col OPA Der (%)	1	1	1.176							
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.240							
122.05	Aspartic, Pre-col AQC Der (%)	5	5	1.213	0.0606	1.213	0.0606	0.0271	5.00%	0.0118	3.89%
124.00	Cysteine/Cystine, PAO Post-col Ninhydry (%)	22	22	0.2749	0.0421	0.2734	0.0368	0.0098	13.48%	0.0086	4.86%
124.01	Cysteine/Cystine, PAO Pre-col OPA Der (%)	1	1	0.2850							
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.2930							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	4	3	0.3153	0.0807	0.3153	0.0807	0.0570	25.59%	0.0026	4.76%
124.99	Cysteine/Cystine, Miscellaneous (%)	1	1	0.2250							
125.00	Glutamic, Post-col Ninhydrin Der (%)	20	19	2.401	0.1910	2.420	0.1548	0.0444	6.40%	0.0239	3.50%
125.01	Glutamic, Pre-col OPA Der (%)	1	1	2.553							
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.362							
125.05	Glutamic, Pre-col AQC Der (%)	5	4	2.353	0.1268	2.353	0.1268	0.0732	5.39%	0.0068	3.52%
126.00	Glycine, Post-col Ninhydrin Der (%)	20	20	0.8197	0.0598	0.8264	0.0340	0.0095	4.12%	0.0140	4.12%
126.01	Glycine, Pre-col OPA Der (%)	1	1	0.7635							
126.02	Glycine, Post-col OPA Der (%)	1	1	0.8330							
126.05	Glycine, Pre-col AQC Der (%)	5	5	0.8271	0.0471	0.8271	0.0471	0.0210	5.69%	0.0090	4.12%
127.00	Histidine, Post-col Ninhydrin Der (%)	20	20	0.3851	0.0426	0.3847	0.0354	0.0099	9.21%	0.0108	4.62%
127.01	Histidine, Pre-col OPA Der (%)	1	1	0.3610							
127.02	Histidine, Post-col OPA Der (%)	1	1	0.3700							
127.05	Histidine, Pre-col AQC Der (%)	5	5	0.3620	0.0518	0.3620	0.0518	0.0231	14.30%	0.0184	4.66%
128.00	Isoleucine, Post-col Ninhydrin Der (%)	20	20	0.4927	0.0475	0.5004	0.0333	0.0093	6.65%	0.0139	4.44%
128.01	Isoleucine, Pre-col OPA Der (%)	1	1	0.5515							
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.5125							
128.05	Isoleucine, Pre-col AQC Der (%)	5	5	0.5042	0.0409	0.5042	0.0409	0.0183	8.11%	0.0132	4.43%
129.00	Leucine, Post-col Ninhydrin Der (%)	20	20	0.9256	0.0650	0.9329	0.0437	0.0122	4.68%	0.0163	4.04%

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129.01	Leucine, Pre-col OPA Der (%)	1	1	0.9450							
129.02	Leucine, Post-col OPA Der (%)	1	1	0.9360							
129.05	Leucine, Pre-col AQC Der (%)	5	5	0.9166	0.0745	0.9166	0.0745	0.0333	8.13%	0.0064	4.05%
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	21	0.8625	0.0618	0.8715	0.0429	0.0117	4.92%	0.0080	4.08%
130.01	L-Lysine, Pre-col OPA Der (%)	1	1	0.8825							
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.8745							
130.05	L-Lysine, Pre-col AQC Der (%)	5	4	0.8485	0.0411	0.8485	0.0411	0.0237	4.84%	0.0060	4.10%
130.99	L-Lysine, Miscellaneous (%)	2	2	0.8348	0.0781						
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	22	21	0.2716	0.0255	0.2735	0.0215	0.0059	7.85%	0.0069	4.86%
131.01	Methionine, PAO Pre-col OPA Der (%)	1	1	0.2785							
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2725							
131.05	Methionine, PAO Pre-col AQC Der (%)	5	5	0.2220	0.0298	0.2220	0.0298	0.0133	13.44%	0.0044	5.02%
131.99	Methionine, Miscellaneous (%)	2	2	0.2190	0.1542						
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	20	19	0.5878	0.0555	0.5880	0.0380	0.0109	6.46%	0.0133	4.33%
132.01	Phenylalanine, Pre-col OPA Der (%)	1	1	0.5900							
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.5860							
132.05	Phenylalanine, Pre-col AQC Der (%)	5	4	0.6014	0.0122	0.6014	0.0122	0.0061	2.03%	0.0033	4.32%
133.00	Proline, Post-col Ninhydrin Der (%)	20	20	0.8228	0.0857	0.8180	0.0606	0.0169	7.41%	0.0218	4.12%
133.05	Proline, Pre-col AQC Der (%)	4	4	0.8739	0.0539	0.8739	0.0539	0.0269	6.17%	0.0188	4.08%
134.00	Serine, Post-col Ninhydrin Der (%)	20	20	0.6770	0.0541	0.6835	0.0351	0.0098	5.13%	0.0130	4.24%
134.01	Serine, Pre-col OPA Der (%)	1	1	0.6565							
134.02	Serine, Post-col OPA Der (%)	1	1	0.5345							
134.05	Serine, Pre-col AQC Der (%)	5	5	0.7052	0.0459	0.7052	0.0459	0.0205	6.50%	0.0104	4.22%
135.00	Threonine, Post-col Ninhydrin Der (%)	21	21	0.5780	0.0381	0.5790	0.0254	0.0069	4.38%	0.0137	4.34%
135.01	Threonine, Pre-col OPA Der (%)	1	1	0.6225							
135.02	Threonine, Post-col OPA Der (%)	1	1	0.5675							
135.05	Threonine, Pre-col AQC Der (%)	6	6	0.6042	0.0522	0.6042	0.0592	0.0302	9.80%	0.0243	4.31%
135.99	Threonine, Miscellaneous (%)	1	1	0.5450							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	9	9	0.2044	0.0345	0.2044	0.0391	0.0163	19.12%	0.0074	5.08%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	4	4	0.2105	0.0175	0.2105	0.0175	0.0087	8.30%	0.0110	5.06%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2115							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	2	2	0.2415	0.0332						
136.05	Tryptophan, Pre-col AQC Der (%)	2	2	0.1548	0.0272						
136.99	Tryptophan, Miscellaneous (%)	1	1	0.1550							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	16	0.4259	0.0480	0.4215	0.0426	0.0133	10.10%	0.0117	4.56%
137.01	Tyrosine, Pre-col OPA Der (%)	1	1	0.5010							
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.4310							
137.05	Tyrosine, Pre-col AQC Der (%)	5	4	0.4723	0.0964	0.4723	0.0964	0.0482	20.42%	0.0050	4.48%
138.00	Valine, Post-col Ninhydrin Der (%)	20	20	0.6461	0.0644	0.6511	0.0602	0.0168	9.25%	0.0169	4.27%
138.01	Valine, Pre-col OPA Der (%)	1	1	0.6780							

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138.02	Valine, Post-col OPA Der (%)	1	1	0.6820							
138.05	Valine, Pre-col AQC Der (%)	5	5	0.6395	0.0693	0.6395	0.0693	0.0310	10.83%	0.0146	4.28%
139.00	Taurine, Post-col Ninhydrin Der (%)	3	3	0.1273	0.0612	0.1273	0.0612	0.0353	48.03%	0.0127	5.45%
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0995							
150.00	Phytase, Colorimetric (Units / kg)	4	4	298.3	85.00	298.3	85.00	42.50	28.50%	40.61	
150.99	Phytase, Miscellaneous (Units / kg)	1	1	357.5							
160.99	Fructose, Miscellaneous (%)	3	2	0.1898	0.2054	0.1898	0.2054			0.0055	5.14%
161.99	Galactose, Miscellaneous (%)	1		0.0000							
162.99	Glucose, Miscellaneous (%)	3	3	0.1482	0.0903	0.1482	0.0903	0.0522	60.97%	0.0083	5.33%
163.99	Lactose, Miscellaneous (%)	3									
164.99	Maltose, Miscellaneous (%)	2	1	0.1035							
165.99	Sucrose, Miscellaneous (%)	3	3	1.915	0.5080	1.915	0.5080	0.3592	26.53%	0.0913	3.63%
166.99	Raffinose, Miscellaneous (%)	3	3	0.7442	0.1243	0.7442	0.1243	0.0718	16.70%	0.0637	4.18%
167.99	Stachyose, Miscellaneous (%)	3	3	0.5472	0.2694	0.5472	0.2694	0.1555	49.23%	0.0357	4.38%
351.00	Chlortetracycline, Plate (mg/kg (ppm))	1	1	13.30							
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	1	1	13.70							
351.05	Chlortetracycline, LC-MS/MS (mg/kg (ppm))	3	3	7.350	4.690	7.350	4.690	2.708	63.81%	0.2047	11.85%
361.03	Lasalocid Sodium, LC (UV or FL) (mg/kg (ppm))	1	1	1.680							
361.04	Lasalocid Sodium, LC-MS (mg/kg (ppm))	1	1	1.735							
361.05	Lasalocid Sodium, LC-MS/MS (mg/kg (ppm))	3	3	3.816	3.616	3.816	3.616	2.088	94.75%	0.1010	13.08%
365.02	Monensin, LC (mg/kg (ppm))	1		2.000							
365.03	Monensin, LC-PCD (mg/kg (ppm))	1	1	1.462							
365.04	Monensin, LC-MS (mg/kg (ppm))	2	2	1.742	0.2082						
365.05	Monensin, LC-MS/MS (mg/kg (ppm))	3	3	3.218	3.115	3.218	3.115	2.203	96.79%	0.1437	13.42%
373.03	Oxytetracycline, LC (mg/kg (ppm))	2	2	11.62	0.8683						
373.06	Oxytetracycline, LC-MS/MS (mg/kg (ppm))	3	3	8.350	6.288	8.350	6.288	3.630	75.30%	0.2203	11.62%
388.05	Tylosin, LC-MS/MS (mg/kg (ppm))	2	2	0.9050	0.1725						
400.01	Water Activity, Aqualab chilled mirror (Units)	7	7	0.4496	0.0390	0.4461	0.0358	0.0169	8.03%	0.0031	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.4208	0.0088						
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	11.80							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	1	1	0.1000							
516.42	Arsenic, Total, ICP, Open vessel (mg / kg (ppm))	1	1	0.1090							
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	1	1	1.200							
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.0940	0.0057						
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	5	5	0.1391	0.0409	0.1391	0.0409	0.0183	29.38%	0.0083	21.53%
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	2	2	0.1174	0.0253						
518.42	Cadmium, ICP, Open vessel (mg / kg (ppm))	1	1	0.0500							
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.1668	0.0166						
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	6	6	0.1757	0.0216	0.1758	0.0244	0.0125	13.91%	0.0033	20.78%

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	2	2	15.62	1.322						
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	2	2	24.82	1.809						
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	1	1	24.07							
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	7.195							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	3	3	12.65	8.084	12.65	8.084	4.667	63.92%	0.7600	10.92%
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	2	2	0.1286	0.0432						
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.1460	0.0226						
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	5	3	0.1462	0.0120	0.1462	0.0120	0.0069	8.23%	0.0034	21.37%
529.99	Mercury, Miscellaneous (µg / kg (ppb))	1	1	28.61							
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	2	2	6.953	0.6743						
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	2.260							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	1	1	3.213							
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0000							
704.00	Caproic Acid (6:0), Miscellaneous GC (%)	1		0.0000							
706.01	Caprylic acid (8:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
708.01	Capric acid (10:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
710.01	Lauric Acid (12:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	0.0197	0.0266						
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	2	1	0.0040							
714.01	Myristic Acid (14:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	0.0253	0.0244						
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	1		0.0200							
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	1.449	0.7446						
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	1	1	1.085							
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	0.0269	0.0242						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	2	1	0.0130							
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	0.3351	0.1053						
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	1	1	0.3100							
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	2.178	1.021						
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	1	1	1.685							
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	3.307	1.431						
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	2	2	4.446	0.4331						
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis	2	2	0.4614	0.2013						
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	2	2	0.7360	0.1146						
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	0.0388	0.0243						
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	1	1	0.0300							
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	2	0.0426	0.0282						
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.0300							
736.01	Arachidonic Acid (5c,8c,11c,14c-20:4), Direct Methylation by Alkali Hydrolysis	2	1	0.0019							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1		0.0000							
738.01	Mead Acid (11c,14c,17c-20:3), Direct Methylation by Alkali Hydrolysis & GC (%)	1		0.0000							
740.01	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Direct Methylation by Al	2	1	0.0020							

Test Material Code # 201921
Issue Date : 02/28/2019

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
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w	1		0.0000							
742.01	Behenic Acid (22:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0241							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	1	1	0.0300							
744.01	Erucic Acid (13c-22:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	2	1	0.0047							
746.01	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Direct Methylation	2	1	0.0043							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (%	1		0.0000							
748.01	Lignoceric Acid (24:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0134							
750.01	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Direct Methylation	2	1	0.0019							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (%	1	1	0.0020							
752.01	Nervonic Acid (24:1) isomers, Direct Methylation by Alkali Hydrolysis & GC (%	2	1	0.0082							
754.01	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Direct Methylation by Alkali	1	1	0.6145							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	3	3	0.7500	0.0786	0.7500	0.0786	0.0454	10.48%	0.0067	
756.01	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Direct Methylation by Alkali	1	1	4.343							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	3	3	4.625	0.4577	4.625	0.4577	0.2642	9.90%	0.0100	
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.510							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.745							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	4.815							
770.01	Total Fat (equivalent to NLEA), Direct Methylation by Alkali Hydrolysis & GC (%)	1	1	8.284							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	8.085							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	1	1	8.455							

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: 91

Equine Feed

Labs Reporting: 175

Test Material Code # 201921

Issue Date : 02/28/2019

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 (%)	41	36	7.904	0.3377	0.2865	0.0784	0.2971	3.64%	1.00%	3.78%	3.789
001.99	Loss on Drying, Miscellaneous (%)	23	22	7.851	0.5014	0.4028	0.1048	0.4162	5.09%	1.32%	5.26%	3.971
002.01	Protein, Crude, Auto Kjel-Foss (%)	10	9	14.96	0.2670	0.2721	0.1087	0.2930	1.82%	0.73%	1.96%	2.696
002.05	Protein, Crude, Copper, Boric Acid (%)	32	28	14.98	0.3398	0.1291	0.0902	0.1575	0.86%	0.60%	1.05%	1.746
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	113	105	15.28	0.3724	0.2542	0.1072	0.2759	1.67%	0.70%	1.81%	2.574
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	10	8	7.851	1.698	0.2606	0.1375	0.2946	3.09%	1.63%	3.49%	2.144
003.06	Fat, Crude, Pet Ether (%)	18	17	8.026	1.368	0.5995	0.0861	0.6056	7.21%	1.04%	7.28%	7.032
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	15	12	8.415	0.1710	0.1044	0.1169	0.1567	1.24%	1.38%	1.85%	1.341
003.10	Fat, Crude, Randall, Pet Ether (%)	28	26	8.109	0.2828	0.2736	0.0865	0.2869	3.37%	1.06%	3.53%	3.317
003.13	Fat, Crude, Randall, Hexane Ext. (%)	11	9	8.029	1.007	0.1929	0.1278	0.2314	2.31%	1.53%	2.77%	1.811
003.14	Fat, Crude, Ankom (%)	39	36	6.409	1.770	1.783	0.1315	1.788	28.00%	2.07%	28.08%	13.59
004.00	Fiber, Crude, Asbestos Free (%)	14	11	14.80	0.4931	0.3690	0.0705	0.3756	2.51%	0.48%	2.56%	5.330
004.06	Fiber, Crude, Fibertec (%)	20	18	15.22	1.266	0.5929	0.1895	0.6225	3.96%	1.27%	4.16%	3.285
004.07	Fiber, Crude, ANKOM (%)	71	66	15.23	0.9334	0.7928	0.2026	0.8183	5.25%	1.34%	5.41%	4.039
005.00	Ash, 2h @ 600°C (%)	93	85	8.234	0.2362	0.2195	0.0663	0.2293	2.66%	0.81%	2.78%	3.456
005.05	Ash, 3h @ 550°C (%)	33	30	8.429	0.1959	0.1752	0.0413	0.1800	2.07%	0.49%	2.13%	4.353
008.02	Fiber, Acid Detergent, Crucible (%)	15	14	19.50	0.8459	0.6275	0.2401	0.6718	3.19%	1.22%	3.42%	2.798
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	40	19.57	1.170	1.008	0.2202	1.032	5.18%	1.13%	5.30%	4.687
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	14	13	37.06	2.049	2.022	0.4699	2.076	5.46%	1.27%	5.60%	4.419
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	41	38	36.45	1.805	1.400	0.3196	1.436	3.86%	0.88%	3.96%	4.493
010.99	Moisture, Miscellaneous (%)	15	12	8.228	0.5754	0.4463	0.0469	0.4487	5.48%	0.58%	5.51%	9.563
011.01	Loss on Drying, 135°C 2hr (%)	66	60	8.668	0.5180	0.3320	0.0789	0.3412	3.80%	0.90%	3.91%	4.324
012.00	Starch, Polarimetric (Ewers) (%)	14	12	14.53	0.7983	0.4507	0.0763	0.4571	3.08%	0.52%	3.12%	5.990
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	11	12.39	1.413	1.395	0.3197	1.431	11.26%	2.58%	11.55%	4.475
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	18	18	9.049	0.7728	0.7607	0.1924	0.7847	8.41%	2.13%	8.67%	4.077
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	16	9.515	0.7020	0.4660	0.2111	0.5116	4.88%	2.21%	5.36%	2.423
019.00	Calcium, Ox-Mn04 Vol. (%)	8	8	1.210	0.0864	0.0826	0.0355	0.0899	6.83%	2.93%	7.43%	2.535
019.08	Calcium, EDTA (%)	13	12	1.236	0.0369	0.0301	0.0302	0.0427	2.44%	2.44%	3.45%	1.413
019.31	Calcium, AAS, Dry ash (%)	24	23	1.207	0.0810	0.0509	0.0360	0.0623	4.26%	3.01%	5.22%	1.733
019.41	Calcium, ICP, Dry ash (%)	27	25	1.198	0.0627	0.0533	0.0214	0.0575	4.43%	1.78%	4.77%	2.685
019.42	Calcium, ICP, Open vessel (%)	21	20	1.218	0.0929	0.0691	0.0292	0.0750	5.61%	2.37%	6.09%	2.571
019.43	Calcium, ICP, Microwave (%)	24	22	1.211	0.0637	0.0638	0.0171	0.0660	5.28%	1.42%	5.47%	3.854
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	16	15	118.9	14.38	8.645	2.534	9.009	7.10%	2.08%	7.40%	3.555
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	20	118.9	12.93	6.843	3.364	7.626	5.78%	2.84%	6.44%	2.267
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	21	19	128.4	8.021	5.459	2.486	5.998	4.30%	1.96%	4.72%	2.413

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
022.43	Copper, ICP, Microwave (mg / kg (ppm))	19	18	124.4	6.219	5.479	4.265	6.944	4.39%	3.42%	5.57%	1.628
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	19	16	563.6	58.35	34.98	8.652	36.03	6.35%	1.57%	6.54%	4.164
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	22	21	530.5	56.39	36.52	16.68	40.15	6.77%	3.09%	7.44%	2.407
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	16	14	476.9	97.57	72.68	11.88	73.64	14.70%	2.40%	14.90%	6.197
025.43	Iron, ICP, Microwave (mg / kg (ppm))	16	15	559.9	47.31	45.38	18.91	49.16	8.10%	3.38%	8.78%	2.600
027.31	Magnesium, AAS, Dry ash (%)	16	16	0.4046	0.0219	0.0209	0.0093	0.0229	5.16%	2.29%	5.65%	2.470
027.41	Magnesium, ICP, Dry ash (%)	23	23	0.4094	0.0234	0.0224	0.0091	0.0242	5.48%	2.23%	5.92%	2.653
027.42	Magnesium, ICP, Open vessel (%)	20	18	0.4167	0.0325	0.0256	0.0078	0.0267	6.21%	1.89%	6.49%	3.439
027.43	Magnesium, ICP, Microwave (%)	21	21	0.4078	0.0267	0.0255	0.0112	0.0279	6.25%	2.76%	6.83%	2.478
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	16	15	215.6	12.42	12.01	6.466	13.64	5.57%	3.00%	6.33%	2.110
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	20	211.3	14.64	11.19	5.438	12.44	5.25%	2.55%	5.84%	2.289
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	20	20	222.6	12.18	11.46	5.851	12.87	5.15%	2.63%	5.78%	2.199
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	18	16	218.3	11.05	10.69	4.792	11.72	4.89%	2.19%	5.36%	2.445
031.01	Phosphorus, Photometric (%)	44	40	0.8028	0.0665	0.0376	0.0118	0.0394	4.66%	1.47%	4.89%	3.328
031.41	Phosphorus, ICP, Dry ash (%)	25	25	0.8153	0.0429	0.0408	0.0187	0.0449	5.01%	2.29%	5.51%	2.406
031.42	Phosphorus, ICP, Open vessel (%)	20	17	0.7945	0.0353	0.0272	0.0104	0.0291	3.42%	1.31%	3.66%	2.793
031.43	Phosphorus, ICP, Microwave (%)	23	21	0.8186	0.0360	0.0267	0.0165	0.0314	3.25%	2.01%	3.82%	1.902
032.31	Potassium, AAS, Dry ash (%)	14	13	1.111	0.3272	0.1613	0.0163	0.1621	13.58%	1.37%	13.65%	9.966
032.41	Potassium, ICP, Dry ash (%)	24	23	1.101	0.0730	0.0552	0.0288	0.0623	4.98%	2.59%	5.61%	2.164
032.42	Potassium, ICP, Open vessel (%)	19	18	1.139	0.0491	0.0336	0.0261	0.0425	2.93%	2.28%	3.71%	1.630
032.43	Potassium, ICP, Microwave (%)	25	22	1.117	0.0617	0.0446	0.0295	0.0535	3.96%	2.62%	4.75%	1.810
033.00	Salt as chloride, Sol Cl (%)	18	17	0.8168	0.0967	0.0477	0.0176	0.0509	5.71%	2.10%	6.08%	2.896
033.01	Salt as chloride, Poten Cl (%)	25	23	0.8771	0.0364	0.0277	0.0132	0.0307	3.14%	1.50%	3.48%	2.325
033.99	Salt, Miscellaneous (%)	10	9	0.7712	0.0872	0.0865	0.0157	0.0879	11.22%	2.04%	11.40%	5.597
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	8	8	2.042	0.2681	0.2504	0.1353	0.2847	12.26%	6.63%	13.94%	2.103
035.31	Sodium, AAS, Dry ash (%)	18	17	0.2939	0.0336	0.0256	0.0058	0.0263	8.57%	1.96%	8.79%	4.495
035.41	Sodium, ICP, Dry ash (%)	24	24	0.2897	0.0160	0.0147	0.0089	0.0172	5.07%	3.06%	5.93%	1.934
035.42	Sodium, ICP, Open vessel (%)	17	17	0.2870	0.0148	0.0140	0.0071	0.0157	4.86%	2.48%	5.46%	2.199
035.43	Sodium, ICP, Microwave (%)	22	21	0.2884	0.0292	0.0241	0.0097	0.0260	8.47%	3.39%	9.12%	2.687
036.42	Sulfur, ICP, Open vessel (%)	20	20	0.2567	0.0170	0.0168	0.0036	0.0172	6.55%	1.40%	6.70%	4.770
036.43	Sulfur, ICP, Microwave (%)	16	16	0.2652	0.0196	0.0191	0.0067	0.0202	7.19%	2.54%	7.62%	3.004
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	18	15	431.4	26.25	18.49	6.271	19.53	4.33%	1.47%	4.57%	3.114
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	21	424.7	25.95	23.04	9.973	25.10	5.46%	2.36%	5.95%	2.517
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	19	18	426.2	30.03	29.19	11.49	31.37	6.87%	2.71%	7.38%	2.729
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	20	19	446.3	32.75	31.56	16.20	35.47	7.06%	3.63%	7.94%	2.190
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	8	8	3.482	0.4995	0.4085	0.4066	0.5764	11.73%	11.68%	16.55%	1.417
106.02	Vitamin A, LC (KU / kg)	13	10	22.18	7.060	5.240	0.6898	5.285	22.60%	2.98%	22.80%	7.663
109.02	Vitamin E, LC (IU / kg)	10	8	407.2	88.00	24.69	14.67	28.72	5.77%	3.43%	6.71%	1.957
120.00	Alanine, Post-col Ninhydrin Der (%)	20	19	0.6648	0.0483	0.0306	0.0095	0.0321	4.55%	1.41%	4.76%	3.368
121.00	Arginine, Post-col Ninhydrin Der (%)	20	18	0.9175	0.0637	0.0401	0.0148	0.0427	4.30%	1.59%	4.59%	2.889
122.00	Aspartic, Post-col Ninhydrin Der (%)	20	17	1.202	0.0780	0.0360	0.0122	0.0380	2.95%	1.00%	3.12%	3.129
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	22	21	0.2749	0.0421	0.0346	0.0080	0.0355	12.83%	2.95%	13.17%	4.461
125.00	Glutamic, Post-col Ninhydrin Der (%)	20	17	2.401	0.1910	0.1294	0.0168	0.1304	5.30%	0.69%	5.34%	7.777

Test Material Code # 201921

Issue Date : 02/28/2019

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
126.00	Glycine, Post-col Ninhydrin Der (%)	20	17	0.8197	0.0598	0.0259	0.0090	0.0274	3.13%	1.09%	3.31%	3.049
127.00	Histidine, Post-col Ninhydrin Der (%)	20	18	0.3851	0.0426	0.0360	0.0095	0.0372	9.21%	2.42%	9.52%	3.928
128.00	Isoleucine, Post-col Ninhydrin Der (%)	20	18	0.4927	0.0475	0.0339	0.0117	0.0358	6.78%	2.33%	7.17%	3.070
129.00	Leucine, Post-col Ninhydrin Der (%)	20	19	0.9256	0.0650	0.0369	0.0153	0.0400	3.94%	1.64%	4.27%	2.608
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	19	0.8625	0.0618	0.0400	0.0069	0.0406	4.58%	0.79%	4.65%	5.879
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	22	20	0.2716	0.0255	0.0199	0.0065	0.0210	7.25%	2.37%	7.63%	3.216
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	20	18	0.5878	0.0555	0.0415	0.0120	0.0432	6.96%	2.01%	7.25%	3.602
133.00	Proline, Post-col Ninhydrin Der (%)	20	18	0.8228	0.0857	0.0759	0.0136	0.0771	9.37%	1.68%	9.52%	5.653
134.00	Serine, Post-col Ninhydrin Der (%)	20	18	0.6770	0.0541	0.0444	0.0113	0.0458	6.48%	1.65%	6.69%	4.049
135.00	Threonine, Post-col Ninhydrin Der (%)	21	20	0.5780	0.0381	0.0261	0.0127	0.0291	4.48%	2.17%	4.98%	2.293
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	9	8	0.2044	0.0345	0.0358	0.0049	0.0362	17.33%	2.35%	17.49%	7.442
137.00	Tyrosine, Post-col Ninhydrin Der (%)	16	15	0.4259	0.0480	0.0339	0.0101	0.0354	8.12%	2.43%	8.47%	3.489
138.00	Valine, Post-col Ninhydrin Der (%)	20	18	0.6461	0.0644	0.0525	0.0135	0.0542	8.03%	2.06%	8.29%	4.021

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