

Animal Feed Scheme

Llama Feed

Test Material Code # 201931

Method Summary Report

(Precision Report Follows)

Labs Reporting: 184

Methods Reported: 379

Issue Date : 12/31/2019

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO #fp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	1	1	6.150							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	48	47	7.847	0.3001	7.826	0.2507	0.0457	3.20%	0.0756	2.93%
001.99	Loss on Drying, Miscellaneous (%)	21	19	7.668	0.4914	7.685	0.4440	0.1273	5.78%	0.0986	2.94%
001.03	Loss on Drying, Low temp. methods (%)	6	5	7.923	0.2197	7.923	0.2197	0.0338	2.77%	0.0311	2.93%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	4	7.740	0.1737	7.740	0.1737	0.0869	2.24%	0.1240	2.94%
001.05	Loss on Drying, LECO (%)	1	1	7.560							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	125	123	24.00	0.4347	24.01	0.3087	0.0348	1.29%	0.1805	2.04%
002.05	Protein, Crude, Copper, Boric Acid (%)	33	32	23.56	0.3587	23.55	0.3270	0.0723	1.39%	0.1405	2.06%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	14	13	23.62	0.3203	23.61	0.3527	0.1223	1.49%	0.0849	2.06%
002.11	Protein, Crude, NIR (%)	5	4	27.72	1.513	27.72	1.513	0.7564	5.46%	0.0313	1.90%
002.04	Protein, Crude, Copper Catalyst (%)	3	3	23.59	0.5123	23.59	0.5123	0.2958	2.17%	0.3100	2.06%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	2	2	23.75	0.2932						
002.08	Protein, Crude, Cu/Ti (%)	2	2	23.79	0.0682						
002.00	Protein, Crude, Crude (%)	1	1	23.28							
002.03	Protein, Crude, Hach Method (%)	1	1	24.07							
002.99	Protein, Crude, Miscellaneous (%)	1	1	22.97							
003.14	Fat, Crude, Ankom (%)	52	50	2.375	0.2525	2.376	0.2149	0.0380	9.05%	0.1115	3.51%
003.10	Fat, Crude, Randall, Pet Ether (%)	28	26	2.343	0.3135	2.281	0.1644	0.0403	7.21%	0.0814	3.53%
003.06	Fat, Crude, Pet Ether (%)	14	14	2.513	0.1430	2.506	0.1329	0.0444	5.30%	0.0695	3.48%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	14	14	2.515	0.2355	2.521	0.2272	0.0759	9.01%	0.0755	3.48%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	9	9	3.101	2.148	2.436	0.2601	0.1084	10.68%	0.1567	3.50%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	8	2.404	0.1625	2.396	0.1655	0.0731	6.90%	0.1173	3.51%
003.11	Fat, Crude, NIR (%)	5	5	2.148	0.8141	2.148	0.8141	0.3641	37.90%	0.0240	3.57%
003.12	Fat, Crude, Hexane Ext (%)	4	4	2.259	0.2344	2.259	0.2344	0.1172	10.37%	0.0277	3.54%
003.99	Fat, Crude, Miscellaneous (%)	5	4	2.560	0.2033	2.560	0.2033	0.1016	7.94%	0.0450	3.47%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	3	3	2.797	0.5931	2.797	0.5931	0.3424	21.21%	0.0267	3.43%
004.07	Fiber, Crude, ANKOM (%)	73	71	17.13	1.742	17.22	1.272	0.1887	7.39%	0.2687	2.41%
004.06	Fiber, Crude, Fibertec (%)	20	19	16.52	3.889	17.35	1.255	0.3598	7.23%	0.1336	2.40%
004.00	Fiber, Crude, Asbestos Free (%)	15	15	17.38	0.7184	17.36	0.7808	0.2520	4.50%	0.1640	2.40%

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
004.11	Fiber, Crude, NIR (%)	6	6	16.85	1.578	16.82	1.714	0.8748	10.19%	0.1892	2.44%
004.03	Fiber, Crude, Fritted Glass (%)	5	5	17.49	1.494	17.49	1.494	0.6680	8.54%	0.4780	2.39%
004.01	Fiber, Crude, Sing Filt (%)	2	2	9.105	8.408						
004.99	Fiber, Crude, Miscellaneous (%)	2	2	15.70	1.100						
005.00	Ash, 2h @ 600°C (%)	95	92	16.69	0.2682	16.69	0.2282	0.0297	1.37%	0.1273	2.45%
005.05	Ash, 3h @ 550°C (%)	31	29	16.91	0.3334	16.89	0.2380	0.0552	1.41%	0.0716	2.43%
005.99	Ash, Miscellaneous (%)	11	10	16.95	0.5066	16.90	0.4255	0.1682	2.52%	0.1729	2.43%
005.11	Ash, NIR (%)	3	3	12.78	6.447	12.78	6.447	3.722	50.46%	0.0467	2.73%
005.02	Ash, LECO (%)	1	1	16.94							
006.00	Total Sugars, As sucrose (%)	3	3	2.818	2.142	2.818	2.142	1.514	76.00%	0.4837	3.42%
006.99	Total Sugars, Miscellaneous (%)	2	2	5.473	0.5268						
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	45	44	22.81	1.802	22.74	1.844	0.3475	8.11%	0.3733	2.10%
008.02	Fiber, Acid Detergent, Crucible (%)	13	13	23.40	1.092	23.47	1.043	0.3617	4.45%	0.5233	2.06%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	3	3	22.36	1.106	22.36	1.106	0.6385	4.95%	0.1567	2.11%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	26.55							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	42	41	33.94	1.754	33.91	1.856	0.3623	5.47%	0.4912	1.72%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	12	34.97	2.376	35.00	2.127	0.7674	6.08%	0.5520	1.69%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	3	3	28.95	8.421	28.95	8.421	4.862	29.08%	0.1883	1.86%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	2	2	37.56	4.009						
010.99	Moisture, Miscellaneous (%)	18	17	7.990	0.6846	7.928	0.4612	0.1398	5.82%	0.1171	2.93%
010.11	Moisture, NIR (%)	3	3	8.189	0.5977	8.189	0.5977	0.3451	7.30%	0.0167	2.91%
010.03	Moisture, Karl-Fischer (%)	2	2	7.543	0.4773						
011.01	Loss on Drying, 135°C 2hr (%)	67	67	8.871	0.3938	8.890	0.4022	0.0614	4.52%	0.1267	2.88%
011.02	Loss on Drying, 130°C for 2 hours (%)	1	1	8.605							
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	1	1	8.550							
012.00	Starch, Polarimetric (Ewers) (%)	14	13	7.250	0.3918	7.229	0.3938	0.1365	5.45%	0.1215	2.97%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	10	10	6.640	1.531	6.273	0.7324	0.2895	11.68%	0.1937	3.03%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	5	5.960	0.7922	5.960	0.7922	0.3543	13.29%	0.3640	3.06%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	4	4	6.476	1.031	6.476	1.031	0.5154	15.92%	0.2013	3.02%
012.11	Starch, NIR (%)	3	3	5.147	3.166	5.147	3.166	1.828	61.52%	0.0467	3.13%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	20	19	3.684	0.4343	3.705	0.4405	0.1263	11.89%	0.1544	3.28%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	17	3.365	0.5456	3.366	0.5918	0.1794	17.58%	0.1649	3.33%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	6	6	3.129	0.4132	3.129	0.4686	0.2391	14.97%	0.1377	3.37%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	6	6	4.107	0.8059	4.107	0.9139	0.4664	22.25%	0.2992	3.23%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	3.040							
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	1.758							
015.43	Aluminum, ICP, Microwave (ppm)	6	6	1,609	243.9	1,609	276.6	141.1	17.19%	21.62	5.27%
015.41	Aluminum, ICP, Dry ash (ppm)	5	5	1,620	363.3	1,620	363.3	162.5	22.43%	50.23	5.26%
015.42	Aluminum, ICP, Open vessel (ppm)	2	2	1,101	654.9						
015.53	Aluminum, ICP-MS, Microwave (ppm)	2	2	2,014	75.66						

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
015.52	Aluminum, ICP-MS, Open vessel (ppm)	1	1	407.0							
017.41	Boron, ICP, Dry ash (ppm)	6	5	21.00	1.974	21.00	1.974	1.103	9.40%	0.8420	10.12%
017.42	Boron, ICP, Open vessel (ppm)	4	4	21.53	1.448	21.53	1.448	0.7239	6.73%	1.947	10.08%
017.43	Boron, ICP, Microwave (ppm)	5	4	21.61	3.705	21.61	3.705	1.852	17.14%	0.5305	10.07%
017.44	Boron, ICP, Dry ash (ppm)	1	1	21.32							
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	24.30							
019.41	Calcium, ICP, Dry ash (%)	32	31	2.143	0.1007	2.145	0.1069	0.0240	4.98%	0.0472	3.57%
019.43	Calcium, ICP, Microwave (%)	24	24	2.105	0.2521	2.144	0.1484	0.0379	6.92%	0.0415	3.57%
019.31	Calcium, AAS, Dry ash (%)	22	22	2.151	0.2027	2.129	0.1333	0.0355	6.26%	0.0511	3.57%
019.42	Calcium, ICP, Open vessel (%)	19	18	2.152	0.1038	2.158	0.1036	0.0305	4.80%	0.0699	3.56%
019.00	Calcium, Ox-Mn04 Vol. (%)	12	12	2.079	0.2455	2.136	0.0836	0.0302	3.91%	0.0569	3.57%
019.08	Calcium, EDTA (%)	9	8	2.095	0.0847	2.095	0.0960	0.0424	4.58%	0.0078	3.58%
019.99	Calcium, Miscellaneous (%)	6	6	1.883	0.5473	2.031	0.2344	0.1196	11.54%	0.0517	3.60%
019.44	Calcium, ICP, Dry ash (%)	5	4	2.168	0.0864	2.168	0.0864	0.0432	3.98%	0.0558	3.56%
019.52	Calcium, ICP-MS, Open vessel (%)	4	4	2.129	0.0911	2.129	0.0911	0.0455	4.28%	0.0578	3.57%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	2.111	0.1055	2.111	0.1055	0.0527	5.00%	0.0775	3.57%
019.02	Calcium, Hach Method (%)	2	2	2.096	0.0509						
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	2.235							
019.32	Calcium, AAS, Open vessel (%)	1	1	2.125							
021.43	Cobalt, ICP, Microwave (ppm)	8	7	6.101	0.9825	6.101	1.114	0.5264	18.26%	0.1511	12.18%
021.31	Cobalt, AAS, Dry ash (ppm)	6	6	7.300	4.063	6.010	1.172	0.5983	19.51%	0.3164	12.21%
021.41	Cobalt, ICP, Dry ash (ppm)	5	5	5.014	1.536	5.014	1.536	0.6871	30.64%	0.1751	12.55%
021.52	Cobalt, ICP-MS, Open vessel (ppm)	4	4	3.929	0.3713	3.929	0.3713	0.1857	9.45%	0.0775	13.02%
021.53	Cobalt, ICP-MS, Microwave (ppm)	3	3	6.105	0.3454	6.105	0.3454	0.1994	5.66%	0.5567	12.18%
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	5.153	0.2369						
022.41	Copper, ICP, Dry ash (ppm)	24	24	48.69	7.511	48.57	7.214	1.841	14.85%	2.421	8.92%
022.42	Copper, ICP, Open vessel (ppm)	19	18	57.77	3.861	57.74	4.220	1.243	7.31%	1.867	8.69%
022.43	Copper, ICP, Microwave (ppm)	18	18	56.05	4.593	55.68	4.325	1.274	7.77%	1.559	8.74%
022.31	Copper, AAS, Dry ash (ppm)	14	13	52.39	11.78	50.01	5.443	1.887	10.88%	1.679	8.88%
022.44	Copper, ICP, Dry ash (ppm)	5	5	50.26	4.845	50.26	4.845	2.167	9.64%	2.748	8.87%
022.99	Copper, Miscellaneous (ppm)	4	4	52.00	6.195	52.00	6.195	3.097	11.91%	1.533	8.83%
022.52	Copper, ICP-MS, Open vessel (ppm)	3	3	52.17	2.026	52.17	2.026	1.170	3.88%	1.540	8.82%
022.53	Copper, ICP-MS, Microwave (ppm)	3	3	52.50	0.5090	52.50	0.5090	0.2939	0.97%	1.343	8.81%
022.32	Copper, AAS, Open vessel (ppm)	2	2	52.60	1.627						
022.33	Copper, AAS, Microwave (ppm)	2	2	55.77	0.2440						
022.34	Copper, AAS, Graphite furnace (ppm)	1	1	30.36							
025.41	Iron, ICP, Dry ash (ppm)	28	27	1,248	168.2	1,263	148.3	35.68	11.75%	31.94	5.46%
025.31	Iron, AAS, Dry ash (ppm)	19	19	1,268	231.0	1,285	218.0	62.51	16.96%	38.47	5.45%
025.43	Iron, ICP, Microwave (ppm)	19	19	1,258	173.8	1,269	158.4	45.43	12.48%	50.54	5.46%
025.42	Iron, ICP, Open vessel (ppm)	15	14	906.8	332.7	906.8	377.3	126.0	41.60%	41.39	5.74%

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
025.52	Iron, ICP-MS, Open vessel (ppm)	3	3	917.6	249.8	917.6	249.8	144.2	27.22%	86.51	5.73%
025.99	Iron, Miscellaneous (ppm)	4	3	1,075	21.45	1,075	21.45	12.38	2.00%	71.83	5.59%
025.53	Iron, ICP-MS, Microwave (ppm)	2	2	1,384	36.42						
025.32	Iron, AAS, Open vessel (ppm)	1	1	385.4							
027.41	Magnesium, ICP, Dry ash (%)	25	25	0.4134	0.0290	0.4102	0.0244	0.0061	5.95%	0.0077	4.57%
027.42	Magnesium, ICP, Open vessel (%)	20	20	0.4022	0.0336	0.4063	0.0234	0.0066	5.77%	0.0152	4.58%
027.43	Magnesium, ICP, Microwave (%)	21	20	0.4057	0.0559	0.4168	0.0222	0.0062	5.32%	0.0080	4.56%
027.31	Magnesium, AAS, Dry ash (%)	17	17	0.4140	0.0714	0.4036	0.0226	0.0068	5.59%	0.0072	4.58%
027.44	Magnesium, ICP, Dry ash (%)	4	4	0.4161	0.0291	0.4161	0.0291	0.0145	6.98%	0.0238	4.56%
027.33	Magnesium, AAS, Microwave (%)	3	3	0.4306	0.0264	0.4306	0.0264	0.0152	6.13%	0.0124	4.54%
027.52	Magnesium, ICP-MS, Open vessel (%)	4	3	0.4001	0.0115	0.4001	0.0115	0.0066	2.87%	0.0056	4.59%
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.4328	0.0506	0.4328	0.0506	0.0292	11.68%	0.0043	4.54%
027.99	Magnesium, Miscellaneous (%)	3	3	0.4317	0.0176	0.4317	0.0176	0.0101	4.07%	0.0167	4.54%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.4250							
028.41	Manganese, ICP, Dry ash (ppm)	23	22	466.0	30.21	466.4	33.40	8.900	7.16%	10.79	6.34%
028.43	Manganese, ICP, Microwave (ppm)	20	20	491.4	34.23	490.4	33.51	9.366	6.83%	16.58	6.30%
028.42	Manganese, ICP, Open vessel (ppm)	19	19	489.3	35.89	493.3	27.32	7.834	5.54%	25.43	6.29%
028.31	Manganese, AAS, Dry ash (ppm)	15	15	460.0	47.00	462.1	48.34	15.60	10.46%	7.156	6.35%
028.99	Manganese, Miscellaneous (ppm)	5	5	492.5	18.47	492.5	18.47	8.261	3.75%	21.33	6.29%
028.44	Manganese, ICP, Dry ash (ppm)	5	4	443.6	3.014	443.6	3.014	1.507	0.68%	23.13	6.39%
028.52	Manganese, ICP-MS, Open vessel (ppm)	3	3	476.8	11.41	476.8	11.41	6.585	2.39%	23.60	6.32%
028.53	Manganese, ICP-MS, Microwave (ppm)	3	3	494.2	7.848	494.2	7.848	4.531	1.59%	41.67	6.29%
028.32	Manganese, AAS, Open vessel (ppm)	2	2	466.0	5.694						
028.33	Manganese, AAS, Microwave (ppm)	1	1	456.7							
028.34	Manganese, AAS, Dry ash (ppm)	1	1	318.5							
031.01	Phosphorus, Photometric (%)	44	42	1.229	0.0941	1.229	0.0536	0.0103	4.36%	0.0205	3.88%
031.41	Phosphorus, ICP, Dry ash (%)	28	28	1.229	0.0596	1.229	0.0646	0.0153	5.26%	0.0364	3.88%
031.43	Phosphorus, ICP, Microwave (%)	22	21	1.239	0.0562	1.238	0.0599	0.0163	4.84%	0.0251	3.87%
031.42	Phosphorus, ICP, Open vessel (%)	19	18	1.188	0.0747	1.198	0.0603	0.0178	5.04%	0.0317	3.89%
031.44	Phosphorus, ICP, Dry ash (%)	6	5	1.200	0.0532	1.200	0.0532	0.0298	4.44%	0.0194	3.89%
031.99	Phosphorus, Miscellaneous (%)	4	4	1.154	0.0626	1.154	0.0626	0.0313	5.43%	0.0475	3.91%
031.03	Phosphorus, Autoanalyzer (%)	3	3	1.248	0.0212	1.248	0.0212	0.0122	1.70%	0.0112	3.87%
031.53	Phosphorus, ICP-MS, Microwave (%)	3	3	1.245	0.0492	1.245	0.0492	0.0284	3.96%	0.0767	3.87%
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	1.169	0.0870						
031.00	Phosphorus, Vol (%)	1	1	1.310							
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	1	1	1.105							
031.06	Phosphorus, Hach Method (%)	1	1	1.175							
032.41	Potassium, ICP, Dry ash (%)	28	27	1.700	0.1106	1.704	0.1087	0.0261	6.38%	0.0372	3.69%
032.43	Potassium, ICP, Microwave (%)	22	22	1.668	0.1958	1.699	0.0959	0.0256	5.65%	0.0326	3.69%
032.42	Potassium, ICP, Open vessel (%)	19	18	1.726	0.1009	1.733	0.0952	0.0280	5.49%	0.0534	3.68%

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
032.31	Potassium, AAS, Dry ash (%)	13	13	1.740	0.1940	1.698	0.0675	0.0234	3.98%	0.0423	3.69%
032.44	Potassium, ICP, Dry ash (%)	5	5	1.706	0.0865	1.706	0.0865	0.0387	5.07%	0.0920	3.69%
032.52	Potassium, ICP-MS, Open vessel (%)	3	3	1.628	0.1712	1.628	0.1712	0.0988	10.52%	0.0352	3.72%
032.53	Potassium, ICP-MS, Microwave (%)	3	3	1.932	0.3547	1.932	0.3547	0.2048	18.36%	0.0767	3.62%
032.99	Potassium, Miscellaneous (%)	4	3	1.750	0.0312	1.750	0.0312	0.0180	1.78%	0.0113	3.68%
032.32	Potassium, AAS, Open vessel (%)	2	2	1.033	0.9228						
032.02	Potassium, Flame Emission (%)	1	1	1.540							
033.01	Salt as chloride, Poten Cl (%)	29	28	3.729	0.1032	3.732	0.0810	0.0191	2.17%	0.0434	3.28%
033.00	Salt as chloride, Sol Cl (%)	24	23	3.545	0.2176	3.563	0.1923	0.0501	5.40%	0.0538	3.30%
033.99	Salt, Miscellaneous (%)	11	10	3.556	0.4051	3.584	0.3921	0.1550	10.94%	0.0512	3.30%
033.05	Salt as chloride, Ion Sel Electrode (%)	5	5	3.667	0.1251	3.667	0.1251	0.0560	3.41%	0.0940	3.29%
033.03	Salt as chloride, Quantab (%)	5	4	3.440	0.4813	3.440	0.4813	0.2779	13.99%	0.0300	3.32%
034.53	Selenium, ICP-MS, Microwave (ppm)	8	7	11.22	1.760	11.22	1.996	0.9428	17.79%	0.2251	11.12%
034.43	Selenium, ICP, Microwave (ppm)	5	5	10.45	2.390	10.45	2.390	1.069	22.87%	0.2230	11.24%
034.52	Selenium, ICP-MS, Open vessel (ppm)	5	4	10.64	0.4676	10.64	0.4676	0.2338	4.40%	0.3475	11.21%
034.04	Selenium, AA, Hydride (ppm)	3	3	10.47	0.7716	10.47	0.7716	0.4455	7.37%	0.1104	11.23%
034.41	Selenium, ICP, Dry ash (ppm)	3	3	8.545	1.618	8.545	1.618	0.9340	18.93%	0.6433	11.58%
034.42	Selenium, ICP, Open vessel (ppm)	3	2	10.30	3.884	10.30	3.884			0.3555	11.26%
034.99	Selenium, Miscellaneous (ppm)	2	2	10.31	1.899						
034.01	Selenium, Fluor (ppm)	1	1	10.68							
035.41	Sodium, ICP, Dry ash (%)	31	30	1.215	0.0693	1.215	0.0785	0.0179	6.46%	0.0374	3.88%
035.43	Sodium, ICP, Microwave (%)	20	19	1.206	0.1710	1.232	0.1149	0.0330	9.33%	0.0198	3.88%
035.42	Sodium, ICP, Open vessel (%)	15	14	1.260	0.1001	1.274	0.0648	0.0216	5.09%	0.0362	3.86%
035.31	Sodium, AAS, Dry ash (%)	14	13	1.261	0.1661	1.221	0.0764	0.0265	6.26%	0.0206	3.88%
035.99	Sodium, Miscellaneous (%)	5	4	1.246	0.0838	1.246	0.0838	0.0419	6.72%	0.0575	3.87%
035.53	Sodium, ICP-MS, Microwave (%)	4	3	1.257	0.0301	1.257	0.0301	0.0174	2.40%	0.0467	3.86%
035.01	Sodium, Ion-selective electrode (%)	2	2	1.244	0.0028						
035.05	Sodium, Flame Emission (%)	2	2	1.183	0.0177						
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	1.274	0.0154						
035.02	Sodium, Em Spect (%)	1	1	1.130							
035.32	Sodium, AAS, Open vessel (%)	1	1	1.290							
036.42	Sulfur, ICP, Open vessel (%)	20	19	0.5417	0.0434	0.5450	0.0340	0.0098	6.24%	0.0146	4.38%
036.43	Sulfur, ICP, Microwave (%)	13	13	0.5673	0.1029	0.5801	0.0646	0.0224	11.14%	0.0121	4.34%
036.04	Sulfur, LECO (%)	4	4	0.5541	0.0235	0.5541	0.0235	0.0118	4.24%	0.0108	4.37%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.5241	0.0176						
036.99	Sulfur, Miscellaneous (%)	2	2	0.5400	0.0354						
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.5495							
037.41	Zinc, ICP, Dry ash (ppm)	24	24	1,512	121.3	1,517	123.9	31.61	8.16%	52.72	5.31%
037.43	Zinc, ICP, Microwave (ppm)	21	20	1,703	130.0	1,700	135.2	37.79	7.95%	33.00	5.22%
037.31	Zinc, AAS, Dry ash (ppm)	17	17	1,501	420.7	1,554	189.0	57.31	12.16%	54.60	5.29%

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
037.42	Zinc, ICP, Open vessel (ppm)	17	17	1,660	84.10	1,662	78.43	23.78	4.72%	74.93	5.24%
037.44	Zinc, ICP, Dry ash (ppm)	5	5	1,773	387.5	1,773	387.5	173.3	21.85%	51.97	5.19%
037.99	Zinc, Miscellaneous (ppm)	5	4	1,583	94.87	1,583	94.87	47.44	6.00%	20.65	5.28%
037.33	Zinc, AAS, Microwave (ppm)	4	3	1,640	67.19	1,640	67.19	38.79	4.10%	37.89	5.25%
037.52	Zinc, ICP-MS, Open vessel (ppm)	3	3	1,713	305.8	1,713	305.8	216.2	17.86%	31.97	5.22%
037.53	Zinc, ICP-MS, Microwave (ppm)	3	3	1,852	125.0	1,852	125.0	72.18	6.75%	130.3	5.16%
037.32	Zinc, AAS, Open vessel (ppm)	2	2	877.1	996.2						
038.43	Molybdenum, ICP, Microwave (ppm)	7	7	18.77	1.892	18.77	2.145	1.014	11.43%	0.6280	10.29%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	4	4	20.51	0.8114	20.51	0.8114	0.4057	3.96%	1.463	10.15%
038.41	Molybdenum, ICP, Dry ash (ppm)	4	3	17.80	3.751	17.80	3.751	2.166	21.07%	0.4417	10.37%
038.42	Molybdenum, ICP, Open vessel (ppm)	4	3	17.89	2.540	17.89	2.540	1.467	14.20%	1.859	10.36%
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	3	3	20.44	0.8837	20.44	0.8837	0.5102	4.32%	0.9633	10.16%
040.42	Barium, ICP, Open vessel (ppm)	1	1	37.77							
041.53	Vanadium, ICP-MS, Microwave (ppm)	1	1	4.355							
042.00	Chloride, Titrimetric (%)	2	2	2.258	0.0035						
042.99	Chloride, Miscellaneous (%)	2	2	2.158	0.1439						
042.01	Chloride, Ion-selective electrode (%)	1	1	2.070							
042.02	Chloride, Ion Chromatography (%)	1	1	2.170							
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	1,020							
102.01	Niacin, Microbiological (ppm)	1	1	66.25							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	22.05							
104.03	Riboflavin, LC (ppm)	3	3	4.622	1.338	4.622	1.338	0.7726	28.95%	0.4300	12.71%
104.00	Riboflavin, Fluorometric (ppm)	1	1	5.570							
105.00	Thiamine, LC (ppm)	2	2	109.7	7.297						
105.01	Thiamine, Fluorometer (ppm)	1	1	208.0							
106.02	Vitamin A, LC (KU / kg)	19	19	73.43	11.76	72.94	10.84	3.109	14.87%	5.041	
106.00	Vitamin A, Color (KU / kg)	2	2	70.48	37.16						
106.01	Vitamin A, UV (KU / kg)	1	1	95.60							
107.00	Vitamin B12, Microbiological (ppb)	1	1	22.55							
108.02	Vitamin D3, LC (KU / kg)	6	5	18.64	4.435	18.64	4.435	2.479	23.79%	0.9708	
108.99	Vitamin D3, Miscellaneous (KU / kg)	2	2	19.64	1.849						
109.02	Vitamin E, LC (IU / kg)	17	17	3,126	573.2	3,213	427.1	129.5	13.30%	76.71	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	3,250							
112.01	Pyridoxine, LC (µg / g)	1	1	4.585							
113.99	Folic acid, Miscellaneous (ppm)	1	1	4.465							
114.01	Biotin, Microbiological (ppm)	1	1	0.8140							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	5	5	3.296	3.086	3.296	3.086	1.380	93.63%	0.0560	3.34%
115.99	Non Protein N (NPN), Miscellaneous (%)	2	2	8.175	1.520						
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	5.215							
120.00	Alanine, Post-col Ninhydrin Der (%)	25	25	0.8632	0.1928	0.8067	0.0477	0.0119	5.91%	0.0160	4.13%

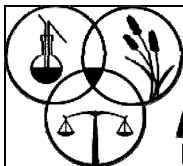
Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
120.05	Alanine, Pre-col AQC Der (%)	5	5	0.7757	0.1214	0.7757	0.1214	0.0543	15.65%	0.0338	4.16%
120.99	Alanine, Miscellaneous (%)	3	3	0.5858	0.3467	0.5858	0.3467	0.2452	59.19%	0.0050	4.33%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.8090							
121.00	Arginine, Post-col Ninhydrin Der (%)	26	26	1.090	0.1881	1.044	0.0572	0.0140	5.48%	0.0187	3.97%
121.05	Arginine, Pre-col AQC Der (%)	4	4	1.078	0.0857	1.078	0.0857	0.0428	7.95%	0.0385	3.96%
121.99	Arginine, Miscellaneous (%)	2	2	0.9288	0.1573						
121.02	Arginine, Post-col OPA Der (%)	1	1	1.020							
122.00	Aspartic, Post-col Ninhydrin Der (%)	25	24	1.737	0.2774	1.670	0.0872	0.0222	5.22%	0.0306	3.70%
122.05	Aspartic, Pre-col AQC Der (%)	4	4	1.709	0.1880	1.709	0.1880	0.0940	11.00%	0.0813	3.69%
122.99	Aspartic, Miscellaneous (%)	3	3	1.473	0.2566	1.473	0.2566	0.1481	17.42%	0.0917	3.77%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.696							
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	27	26	0.2641	0.0402	0.2587	0.0272	0.0067	10.53%	0.0119	4.90%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	5	5	0.2196	0.0980	0.2196	0.0980	0.0438	44.60%	0.0055	5.02%
124.99	Cysteine/Cystine, Miscellaneous (%)	2	2	0.2375	0.1662						
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.2670							
125.00	Glutamic, Post-col Ninhydrin Der (%)	25	25	2.825	0.3885	2.753	0.2424	0.0606	8.81%	0.0530	3.43%
125.05	Glutamic, Pre-col AQC Der (%)	5	5	2.599	0.3891	2.599	0.3891	0.1740	14.97%	0.1543	3.46%
125.99	Glutamic, Miscellaneous (%)	3	3	2.513	0.2542	2.513	0.2542	0.1468	10.11%	0.1033	3.48%
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.685							
126.00	Glycine, Post-col Ninhydrin Der (%)	25	25	0.8633	0.1577	0.8152	0.0380	0.0095	4.66%	0.0156	4.12%
126.05	Glycine, Pre-col AQC Der (%)	5	5	0.8159	0.1026	0.8159	0.1026	0.0459	12.57%	0.0369	4.12%
126.99	Glycine, Miscellaneous (%)	3	3	0.6192	0.3270	0.6192	0.3270	0.1888	52.81%	0.0117	4.30%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.8025							
127.00	Histidine, Post-col Ninhydrin Der (%)	26	25	0.4148	0.0715	0.3999	0.0317	0.0079	7.93%	0.0109	4.59%
127.05	Histidine, Pre-col AQC Der (%)	5	4	0.3983	0.0184	0.3983	0.0184	0.0092	4.62%	0.0033	4.59%
127.99	Histidine, Miscellaneous (%)	2	2	0.3238	0.1149						
127.02	Histidine, Post-col OPA Der (%)	1	1	0.3775							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	26	26	0.6604	0.1191	0.6443	0.0705	0.0173	10.94%	0.0151	4.27%
128.05	Isoleucine, Pre-col AQC Der (%)	5	5	0.6754	0.0791	0.6754	0.0791	0.0354	11.71%	0.0422	4.24%
128.99	Isoleucine, Miscellaneous (%)	3	3	0.5650	0.1314	0.5650	0.1314	0.0929	23.26%	0.0033	4.36%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.6460							
129.00	Leucine, Post-col Ninhydrin Der (%)	26	26	1.199	0.2521	1.137	0.0658	0.0161	5.78%	0.0170	3.92%
129.05	Leucine, Pre-col AQC Der (%)	5	5	1.159	0.1154	1.159	0.1154	0.0516	9.96%	0.0476	3.91%
129.99	Leucine, Miscellaneous (%)	3	3	1.054	0.1263	1.054	0.1263	0.0729	11.98%	0.0217	3.97%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.133							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	26	26	0.8884	0.1641	0.8573	0.0474	0.0116	5.53%	0.0198	4.09%
130.05	L-Lysine, Pre-col AQC Der (%)	5	5	0.8318	0.1173	0.8318	0.1173	0.0525	14.10%	0.0471	4.11%
130.99	L-Lysine, Miscellaneous (%)	4	4	0.9056	0.0482	0.9056	0.0482	0.0241	5.33%	0.0648	4.06%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.8285							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	27	26	0.3711	0.0681	0.3685	0.0303	0.0074	8.22%	0.0173	4.65%

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
131.05	Methionine, PAO Pre-col AQC Der (%)	6	5	0.3135	0.0685	0.3135	0.0685	0.0383	21.84%	0.0073	4.76%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.3660							
131.99	Methionine, Miscellaneous (%)	1	1	0.1700							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	26	26	0.7818	0.1313	0.7542	0.0483	0.0119	6.41%	0.0199	4.17%
132.05	Phenylalanine, Pre-col AQC Der (%)	5	5	0.7714	0.0683	0.7714	0.0683	0.0306	8.86%	0.0182	4.16%
132.99	Phenylalanine, Miscellaneous (%)	3	3	0.7142	0.0472	0.7142	0.0472	0.0272	6.61%	0.0150	4.21%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.7440							
133.00	Proline, Post-col Ninhydrin Der (%)	25	25	1.018	0.3522	0.9206	0.0682	0.0171	7.41%	0.0161	4.05%
133.05	Proline, Pre-col AQC Der (%)	5	5	0.9276	0.0747	0.9276	0.0747	0.0334	8.05%	0.0458	4.05%
133.99	Proline, Miscellaneous (%)	3	3	0.8000	0.1916	0.8000	0.1916	0.1106	23.95%	0.0400	4.14%
134.00	Serine, Post-col Ninhydrin Der (%)	25	25	0.8277	0.1287	0.7989	0.0647	0.0162	8.09%	0.0204	4.14%
134.05	Serine, Pre-col AQC Der (%)	5	5	0.7747	0.0196	0.7747	0.0196	0.0088	2.53%	0.0363	4.16%
134.99	Serine, Miscellaneous (%)	3	3	0.8258	0.1602	0.8258	0.1602	0.0925	19.40%	0.0250	4.12%
134.02	Serine, Post-col OPA Der (%)	1	1	0.7310							
135.00	Threonine, Post-col Ninhydrin Der (%)	26	26	0.6663	0.1355	0.6323	0.0387	0.0095	6.12%	0.0139	4.29%
135.05	Threonine, Pre-col AQC Der (%)	5	5	0.6219	0.0405	0.6219	0.0405	0.0181	6.50%	0.0274	4.30%
135.99	Threonine, Miscellaneous (%)	2	2	0.6963	0.0796						
135.02	Threonine, Post-col OPA Der (%)	1	1	0.6140							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	7	0.2232	0.0329	0.2232	0.0373	0.0176	16.72%	0.0057	5.01%
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	6	6	0.2382	0.0226	0.2357	0.0197	0.0101	8.37%	0.0053	4.97%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	5	5	0.2066	0.0266	0.2066	0.0266	0.0119	12.88%	0.0048	5.07%
136.05	Tryptophan, Pre-col AQC Der (%)	2	2	0.1062	0.0429						
136.99	Tryptophan, Miscellaneous (%)	2	2	0.3613	0.2422						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2120							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	19	18	0.5169	0.1286	0.5065	0.0955	0.0281	18.85%	0.0198	4.43%
137.05	Tyrosine, Pre-col AQC Der (%)	5	4	0.5099	0.1307	0.5099	0.1307	0.0653	25.62%	0.0184	4.43%
137.99	Tyrosine, Miscellaneous (%)	3	3	0.5158	0.0356	0.5158	0.0356	0.0205	6.89%	0.0183	4.42%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.5255							
138.00	Valine, Post-col Ninhydrin Der (%)	26	26	0.8155	0.1714	0.7753	0.0748	0.0183	9.65%	0.0190	4.16%
138.05	Valine, Pre-col AQC Der (%)	5	4	0.7726	0.0215	0.7726	0.0215	0.0108	2.79%	0.0327	4.16%
138.99	Valine, Miscellaneous (%)	3	3	0.7133	0.1550	0.7133	0.1550	0.0895	21.72%	0.0067	4.21%
138.02	Valine, Post-col OPA Der (%)	1	1	0.8205							
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.1475	0.0813						
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0055							
139.99	Taurine, Miscellaneous (%)	1	1	0.0300							
139.02	Taurine, Post-col OPA Der (%)	1	1	0.0100							
140.01	Lysine Free, LC-PCD (%)	1	1	0.8166							
141.00	Methionine Free, LC-PCD (%)	1	1	0.4123							
160.10	Fructose, HPAEC PAD (%)	1	1	0.1075							
160.99	Fructose, Miscellaneous (%)	1	1	0.6800							

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
161.10	Galactose, HPAEC PAD (%)	1		0.0000							
162.10	Glucose, HPAEC PAD (%)	1	1	0.0930							
162.99	Glucose, Miscellaneous (%)	1	1	0.3000							
163.10	Lactose, HPAEC PAD (%)	1		0.0000							
163.99	Lactose, Miscellaneous (%)	1		0.1500							
164.10	Maltose, HPAEC PAD (%)	1	1	0.1055							
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.10	Sucrose, HPAEC PAD (%)	1	1	1.777							
165.99	Sucrose, Miscellaneous (%)	1	1	2.140							
166.10	Raffinose, HPAEC PAD (%)	1	1	0.5000							
166.99	Raffinose, Miscellaneous (%)	1	1	0.5500							
167.10	Stachyose, HPAEC PAD (%)	1	1	0.7250							
167.99	Stachyose, Miscellaneous (%)	1	1	0.7700							
400.01	Water Activity, Aqualab chilled mirror (Units)	7	7	0.4976	0.0191	0.4973	0.0209	0.0099	4.20%	0.0055	
400.99	Water Activity, Miscellaneous (Units)	3	3	0.5273	0.0626	0.5273	0.0626	0.0361	11.86%	0.0027	
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	5.925							
516.53	Arsenic, Total, ICP-MS, Microwave (ppm)	4	4	0.4889	0.0187	0.4889	0.0187	0.0093	3.82%	0.0133	17.82%
516.52	Arsenic, Total, ICP-MS, Open vessel (ppm)	2	2	0.4670	0.0396						
516.00	Arsenic, Total, AA, Hydride (ppm)	1	1	0.4050							
516.43	Arsenic, Total, ICP, Microwave (ppm)	2	1	1.412							
518.53	Cadmium, ICP-MS, Microwave (ppm)	4	4	0.3186	0.0119	0.3186	0.0119	0.0060	3.74%	0.0098	19.00%
518.43	Cadmium, ICP, Microwave (ppm)	3	3	0.2937	0.0090	0.2937	0.0090	0.0063	3.05%	0.0100	19.24%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.2713	0.0146						
518.52	Cadmium, ICP-MS, Open vessel (ppm)	2	2	0.3195	0.0149						
518.31	Cadmium, AAS, Dry ash (ppm)	1	1	0.1500							
520.43	Chromium, ICP, Microwave (ppm)	4	3	14.48	3.400	14.48	3.400	2.404	23.49%	0.1120	10.70%
520.53	Chromium, ICP-MS, Microwave (ppm)	3	3	16.19	1.004	16.19	1.004	0.7099	6.20%	0.1733	10.52%
520.41	Chromium, ICP, Dry ash (ppm)	2	2	7.608	0.9185						
520.42	Chromium, ICP, Open vessel (ppm)	2	2	13.21	0.4993						
520.52	Chromium, ICP-MS, Open vessel (ppm)	1	1	7.070							
526.53	Lead, ICP-MS, Microwave (ppm)	4	4	1.230	0.0923	1.230	0.0923	0.0461	7.50%	0.0435	15.51%
526.41	Lead, ICP, Dry ash (ppm)	2	2	0.9040	0.0509						
526.43	Lead, ICP, Microwave (ppm)	3	2	1.161	0.2683	1.161	0.2683			0.2154	15.64%
526.52	Lead, ICP-MS, Open vessel (ppm)	2	2	1.298	0.0530						
526.31	Lead, AAS, Dry ash (ppm)	1	1	1.600							
529.99	Mercury, Miscellaneous (ppb)	3	2	31.13	40.12	31.13	40.12			4.603	22.00%
529.00	Mercury, Cold vapor (ppb)	1	1	2.950							
539.41	Nickel, ICP, Dry ash (ppm)	2	2	5.711	0.0102						
539.43	Nickel, ICP, Microwave (ppm)	2	2	6.612	0.2294						
539.53	Nickel, ICP-MS, Microwave (ppm)	2	2	6.908	0.1874						

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	3.415							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3	1								
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	3	2	0.2725	0.3712	0.2725	0.3712			0.0060	
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	3	3	6.260	10.06	6.260	10.06	7.116	160.74%	0.1467	
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	4	3	0.1163	0.1764	0.1163	0.1764	0.1247	151.65%	0.0147	
720.99	Margaric acid (17:0), Miscellaneous (% (w/w))	1	1	0.3200							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	3	3	1.944	3.158	1.944	3.158	2.233	162.49%	0.0703	
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	3	3	5.852	9.499	5.852	9.499	6.717	162.32%	0.0353	
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	4	3	0.9730	0.0383	0.9730	0.0383	0.0221	3.94%	0.0240	
726.02	Linoleic Acid (9c,12c-18:2), Direct Methylation by Acid-Alkali Hydrolysis & GC	1	1	0.9850							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	4	3	0.1342	0.0081	0.1342	0.0081	0.0057	6.04%	0.0030	
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	3	2	0.2358	0.3171	0.2358	0.3171			0.0305	
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	1	0.0090							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1		0.0000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	2		0.0000							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	3	2	0.2533	0.3348	0.2533	0.3348			0.0115	
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.0050							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	1		0.0050							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	2	2	0.2268	0.2874						
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	2	1	0.3750							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	1		0.0050							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	2	2	0.1350	0.0071						
754.02	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Direct Methylation by Acid-f	1	1	0.1495							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	2	2	0.9775	0.0601						
756.01	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Direct Methylation by Alkali	1	1	0.9850							
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.7050							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.4450							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.090							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	2.370							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	2.138	0.1863						

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. Robust Assigned Values indicated in bold font.



Animal Feed Scheme

Llama Feed

Test Material Code # 201931

Method Precision Report

Methods Reported: 87

Labs Reporting: 184

Issue Date : 12/31/2019

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	48	43	7.847	0.3001	0.2297	0.0584	0.2370	2.94%	0.75%	3.03%	4.057
001.99	Loss on Drying, Miscellaneous (%)	21	17	7.668	0.4914	0.4178	0.0746	0.4244	5.40%	0.96%	5.48%	5.689
002.01	Protein, Crude, Auto Kjel-Foss (%)	14	13	23.62	0.3203	0.3152	0.0804	0.3253	1.33%	0.34%	1.38%	4.046
002.05	Protein, Crude, Copper, Boric Acid (%)	33	30	23.56	0.3587	0.2827	0.1111	0.3038	1.20%	0.47%	1.29%	2.734
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	125	117	24.00	0.4347	0.2899	0.1535	0.3280	1.21%	0.64%	1.37%	2.137
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	9	8	3.101	2.148	0.1521	0.1583	0.2195	6.37%	6.63%	9.20%	1.387
003.06	Fat, Crude, Pet Ether (%)	14	14	2.513	0.1430	0.1330	0.0745	0.1524	5.29%	2.96%	6.07%	2.047
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	14	13	2.515	0.2355	0.2329	0.0572	0.2398	9.20%	2.26%	9.47%	4.189
003.10	Fat, Crude, Randall, Pet Ether (%)	28	23	2.343	0.3135	0.1244	0.0674	0.1415	5.47%	2.97%	6.23%	2.098
003.14	Fat, Crude, Ankom (%)	52	47	2.375	0.2525	0.2008	0.1003	0.2244	8.46%	4.23%	9.46%	2.238
004.00	Fiber, Crude, Asbestos Free (%)	15	15	17.38	0.7184	0.7095	0.1594	0.7271	4.08%	0.92%	4.18%	4.561
004.06	Fiber, Crude, Fibertec (%)	20	18	16.52	3.889	1.649	0.1595	1.657	9.51%	0.92%	9.56%	10.39
004.07	Fiber, Crude, ANKOM (%)	73	67	17.13	1.742	1.188	0.2469	1.214	6.89%	1.43%	7.04%	4.916
005.00	Ash, 2h @ 600°C (%)	95	85	16.69	0.2682	0.1796	0.1072	0.2091	1.08%	0.64%	1.25%	1.951
005.05	Ash, 3h @ 550°C (%)	31	27	16.91	0.3334	0.2300	0.0564	0.2368	1.36%	0.33%	1.40%	4.202
005.99	Ash, Miscellaneous (%)	11	9	16.95	0.5066	0.3300	0.1314	0.3552	1.96%	0.78%	2.11%	2.703
008.02	Fiber, Acid Detergent, Crucible (%)	13	13	23.40	1.092	1.028	0.5215	1.152	4.39%	2.23%	4.92%	2.210
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	45	43	22.81	1.802	1.638	0.3402	1.673	7.22%	1.50%	7.37%	4.918
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	12	34.97	2.376	2.345	0.5385	2.406	6.71%	1.54%	6.88%	4.469
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	42	39	33.94	1.754	1.736	0.3894	1.779	5.11%	1.15%	5.24%	4.570
010.99	Moisture, Miscellaneous (%)	18	16	7.990	0.6846	0.5232	0.1161	0.5360	6.64%	1.47%	6.80%	4.618
011.01	Loss on Drying, 135°C 2hr (%)	67	66	8.871	0.3938	0.3656	0.1225	0.3856	4.11%	1.38%	4.34%	3.148
012.00	Starch, Polarimetric (Ewers) (%)	14	12	7.250	0.3918	0.3576	0.0916	0.3691	4.90%	1.25%	5.06%	4.029
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	10	9	6.640	1.531	0.6683	0.1572	0.6866	10.78%	2.54%	11.07%	4.367
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	16	3.365	0.5456	0.5544	0.1319	0.5699	16.43%	3.91%	16.89%	4.321
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	20	19	3.684	0.4343	0.4207	0.1523	0.4474	11.42%	4.13%	12.15%	2.938
019.00	Calcium, Ox-Mn04 Vol. (%)	12	10	2.079	0.2455	0.0501	0.0464	0.0683	2.35%	2.17%	3.20%	1.473
019.31	Calcium, AAS, Dry ash (%)	22	20	2.151	0.2027	0.1188	0.0465	0.1275	5.61%	2.19%	6.02%	2.745
019.41	Calcium, ICP, Dry ash (%)	32	31	2.143	0.1007	0.0940	0.0511	0.1070	4.39%	2.39%	4.99%	2.092
019.42	Calcium, ICP, Open vessel (%)	19	17	2.152	0.1038	0.0663	0.0775	0.1020	3.06%	3.58%	4.71%	1.316
019.43	Calcium, ICP, Microwave (%)	24	23	2.105	0.2521	0.1331	0.0382	0.1384	6.19%	1.78%	6.44%	3.628
022.31	Copper, AAS, Dry ash (ppm)	14	12	52.39	11.78	4.125	1.762	4.486	8.36%	3.57%	9.09%	2.546
022.41	Copper, ICP, Dry ash (ppm)	24	24	48.69	7.511	7.341	2.242	7.676	15.08%	4.60%	15.77%	3.424
022.42	Copper, ICP, Open vessel (ppm)	19	17	57.77	3.861	3.483	0.6978	3.553	6.07%	1.22%	6.20%	5.091
022.43	Copper, ICP, Microwave (ppm)	18	16	56.05	4.593	3.225	1.095	3.406	5.87%	1.99%	6.20%	3.110
025.31	Iron, AAS, Dry ash (ppm)	19	18	1,268	231.0	181.4	37.82	185.3	13.93%	2.91%	14.23%	4.898

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
025.41	Iron, ICP, Dry ash (ppm)	28	26	1,248	168.2	135.9	30.47	139.3	10.73%	2.41%	10.99%	4.571
025.42	Iron, ICP, Open vessel (ppm)	15	13	906.8	332.7	344.5	27.44	345.6	38.31%	3.05%	38.43%	12.59
025.43	Iron, ICP, Microwave (ppm)	19	17	1,258	173.8	136.0	39.65	141.7	10.57%	3.08%	11.01%	3.574
027.31	Magnesium, AAS, Dry ash (%)	17	15	0.4140	0.0714	0.0283	0.0062	0.0290	7.10%	1.55%	7.26%	4.694
027.41	Magnesium, ICP, Dry ash (%)	25	24	0.4134	0.0290	0.0218	0.0077	0.0231	5.31%	1.88%	5.64%	2.999
027.42	Magnesium, ICP, Open vessel (%)	20	18	0.4022	0.0336	0.0171	0.0122	0.0210	4.15%	2.97%	5.11%	1.718
027.43	Magnesium, ICP, Microwave (%)	21	19	0.4057	0.0559	0.0207	0.0078	0.0221	4.97%	1.87%	5.31%	2.845
028.31	Manganese, AAS, Dry ash (ppm)	15	15	460.0	47.00	46.72	7.210	47.28	10.16%	1.57%	10.28%	6.557
028.41	Manganese, ICP, Dry ash (ppm)	23	22	466.0	30.21	29.21	10.89	31.17	6.27%	2.34%	6.69%	2.863
028.42	Manganese, ICP, Open vessel (ppm)	19	18	489.3	35.89	16.28	26.60	31.19	3.29%	5.37%	6.30%	1.172
028.43	Manganese, ICP, Microwave (ppm)	20	20	491.4	34.23	32.44	15.44	35.92	6.60%	3.14%	7.31%	2.327
031.01	Phosphorus, Photometric (%)	44	40	1.229	0.0941	0.0724	0.0168	0.0743	5.84%	1.36%	5.99%	4.422
031.41	Phosphorus, ICP, Dry ash (%)	28	28	1.229	0.0596	0.0549	0.0329	0.0640	4.47%	2.68%	5.21%	1.944
031.42	Phosphorus, ICP, Open vessel (%)	19	18	1.188	0.0747	0.0712	0.0317	0.0780	6.00%	2.67%	6.56%	2.458
031.43	Phosphorus, ICP, Microwave (%)	22	21	1.239	0.0562	0.0535	0.0244	0.0588	4.31%	1.97%	4.74%	2.409
032.31	Potassium, AAS, Dry ash (%)	13	11	1.740	0.1940	0.0567	0.0229	0.0612	3.36%	1.35%	3.62%	2.677
032.41	Potassium, ICP, Dry ash (%)	28	25	1.700	0.1106	0.0970	0.0316	0.1020	5.68%	1.85%	5.97%	3.229
032.42	Potassium, ICP, Open vessel (%)	19	16	1.726	0.1009	0.0696	0.0374	0.0791	4.02%	2.16%	4.56%	2.112
032.43	Potassium, ICP, Microwave (%)	22	20	1.668	0.1958	0.0742	0.0284	0.0795	4.37%	1.67%	4.68%	2.801
033.00	Salt as chloride, Sol Cl (%)	24	21	3.545	0.2176	0.1470	0.0482	0.1547	4.10%	1.34%	4.31%	3.210
033.01	Salt as chloride, Poten Cl (%)	29	26	3.729	0.1032	0.0812	0.0328	0.0876	2.17%	0.88%	2.34%	2.670
033.99	Salt, Miscellaneous (%)	11	9	3.556	0.4051	0.3963	0.0331	0.3977	10.99%	0.92%	11.03%	12.01
035.31	Sodium, AAS, Dry ash (%)	14	12	1.261	0.1661	0.0885	0.0179	0.0903	7.24%	1.46%	7.39%	5.055
035.41	Sodium, ICP, Dry ash (%)	31	29	1.215	0.0693	0.0629	0.0315	0.0703	5.19%	2.60%	5.81%	2.233
035.42	Sodium, ICP, Open vessel (%)	15	13	1.260	0.1001	0.0516	0.0280	0.0587	4.02%	2.18%	4.58%	2.097
035.43	Sodium, ICP, Microwave (%)	20	18	1.206	0.1710	0.1015	0.0195	0.1034	8.20%	1.58%	8.35%	5.293
036.42	Sulfur, ICP, Open vessel (%)	20	18	0.5417	0.0434	0.0308	0.0138	0.0337	5.61%	2.51%	6.14%	2.449
036.43	Sulfur, ICP, Microwave (%)	13	12	0.5673	0.1029	0.0574	0.0112	0.0584	9.70%	1.89%	9.88%	5.222
037.31	Zinc, AAS, Dry ash (ppm)	17	15	1,501	420.7	195.7	45.03	200.8	12.42%	2.86%	12.74%	4.459
037.41	Zinc, ICP, Dry ash (ppm)	24	22	1,512	121.3	97.90	43.68	107.2	6.44%	2.88%	7.06%	2.454
037.42	Zinc, ICP, Open vessel (ppm)	17	17	1,660	84.10	63.25	78.38	100.7	3.81%	4.72%	6.07%	1.285
037.43	Zinc, ICP, Microwave (ppm)	21	20	1,703	130.0	128.0	32.23	132.0	7.51%	1.89%	7.75%	4.094
106.02	Vitamin A, LC (KU / kg)	19	18	73.43	11.76	9.060	3.992	9.900	12.63%	5.56%	13.80%	2.480
109.02	Vitamin E, LC (IU / kg)	17	16	3,126	573.2	420.1	71.63	426.1	13.03%	2.22%	13.22%	5.949
120.00	Alanine, Post-col Ninhydrin Der (%)	25	22	0.8632	0.1928	0.1006	0.0126	0.1014	12.31%	1.55%	12.41%	8.024
121.00	Arginine, Post-col Ninhydrin Der (%)	26	24	1.090	0.1881	0.1326	0.0143	0.1334	12.35%	1.33%	12.42%	9.336
122.00	Aspartic, Post-col Ninhydrin Der (%)	25	21	1.737	0.2774	0.0673	0.0237	0.0713	4.07%	1.43%	4.31%	3.012
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	27	23	0.2641	0.0402	0.0208	0.0107	0.0234	8.11%	4.19%	9.13%	2.178
125.00	Glutamic, Post-col Ninhydrin Der (%)	25	22	2.825	0.3885	0.2105	0.0399	0.2143	7.68%	1.46%	7.82%	5.369
126.00	Glycine, Post-col Ninhydrin Der (%)	25	23	0.8633	0.1577	0.1211	0.0116	0.1216	14.36%	1.38%	14.43%	10.46
127.00	Histidine, Post-col Ninhydrin Der (%)	26	23	0.4148	0.0715	0.0375	0.0086	0.0385	9.39%	2.14%	9.63%	4.492
128.00	Isoleucine, Post-col Ninhydrin Der (%)	26	24	0.6604	0.1191	0.0671	0.0120	0.0682	10.62%	1.89%	10.78%	5.702
129.00	Leucine, Post-col Ninhydrin Der (%)	26	25	1.199	0.2521	0.1812	0.0142	0.1818	15.57%	1.22%	15.61%	12.81
130.00	L-Lysine, Post-col Ninhydrin Der (%)	26	25	0.8884	0.1641	0.0898	0.0161	0.0913	10.43%	1.87%	10.59%	5.674
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	27	24	0.3711	0.0681	0.0222	0.0165	0.0277	6.04%	4.49%	7.53%	1.675
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	26	24	0.7818	0.1313	0.0896	0.0160	0.0910	11.60%	2.07%	11.78%	5.690

Test Material Code # 201931

Issue Date : 12/31/2019

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
133.00	Proline, Post-col Ninhydrin Der (%)	25	23	1.018	0.3522	0.0767	0.0129	0.0778	8.34%	1.40%	8.46%	6.027
134.00	Serine, Post-col Ninhydrin Der (%)	25	24	0.8277	0.1287	0.1065	0.0175	0.1080	13.11%	2.15%	13.28%	6.169
135.00	Threonine, Post-col Ninhydrin Der (%)	26	25	0.6663	0.1355	0.0859	0.0128	0.0868	13.30%	1.98%	13.45%	6.802
137.00	Tyrosine, Post-col Ninhydrin Der (%)	19	16	0.5169	0.1286	0.0893	0.0130	0.0903	18.03%	2.63%	18.22%	6.932
138.00	Valine, Post-col Ninhydrin Der (%)	26	25	0.8155	0.1714	0.1299	0.0172	0.1310	16.38%	2.17%	16.52%	7.612

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