



AAFCO
Association of American Feed Control Officials



Animal Feed Scheme

Goat Feed

Test Material Code # 202426

Method Summary Report

(Precision Report Follows)

Labs Reporting: 177

Methods Reported: 396

Issue Date : 07/31/2024

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 (Rob R-bar)	Thompson Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	4	2	1.110	0.0495	1.110	0.0495			0.0100	3.94%
000.99	Urea, Miscellaneous (%)	1	1	0.2335							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	48	47	8.920	0.4226	8.894	0.3568	0.0651	4.01%	0.0840	2.88%
001.99	Loss on Drying, Miscellaneous (%)	20	19	8.635	0.4524	8.655	0.3965	0.1137	4.58%	0.1205	2.89%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	5	8.743	0.3059	8.743	0.3059	0.1368	3.50%	0.0282	2.89%
001.03	Loss on Drying, Low temp. methods (%)	3	3	9.073	0.1130	9.073	0.1130	0.0652	1.24%	0.1333	2.87%
001.05	Loss on Drying, LECO (%)	1	1	8.761							
001.08	Loss on Drying, 102°C 16 hr, in meat (%)	1	1	9.181							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	110	107	16.69	0.5229	16.73	0.3177	0.0384	1.90%	0.1651	2.44%
002.05	Protein, Crude, Copper, Boric Acid (%)	29	29	16.67	0.2536	16.67	0.2619	0.0608	1.57%	0.1329	2.45%
002.01	Protein, Crude, Auto Kjeld-Foss (%)	18	17	16.63	0.2685	16.62	0.2839	0.0861	1.71%	0.0817	2.45%
002.11	Protein, Crude, NIR (%)	3	3	16.66	0.9541	16.66	0.9541	0.5508	5.73%	0.1883	2.45%
002.00	Protein, Crude, Crude (%)	2	2	16.34	0.2298						
002.08	Protein, Crude, Cu/Ti (%)	2	2	16.74	0.1201						
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	1	1	16.34							
002.04	Protein, Crude, Copper Catalyst (%)	1	1	16.33							
003.14	Fat, Crude, Ankom (%)	56	55	3.229	0.3233	3.209	0.2319	0.0391	7.23%	0.1412	3.36%
003.10	Fat, Crude, Randall, Pet Ether (%)	31	30	3.243	0.3629	3.239	0.2708	0.0618	8.36%	0.0855	3.35%
003.06	Fat, Crude, Pet Ether (%)	17	17	3.360	0.3183	3.351	0.3251	0.0986	9.70%	0.1058	3.33%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	16	15	3.375	0.1958	3.377	0.2177	0.0703	6.45%	0.0640	3.33%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	10	10	3.407	0.1736	3.387	0.1456	0.0576	4.30%	0.0616	3.33%
003.99	Fat, Crude, Miscellaneous (%)	6	6	4.092	1.263	3.821	0.7443	0.3798	19.48%	0.1240	3.27%
003.12	Fat, Crude, Hexane Ext (%)	4	4	3.544	0.1220	3.544	0.1220	0.0610	3.44%	0.2075	3.31%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	3	3	3.551	0.1994	3.551	0.1994	0.1151	5.62%	0.1269	3.31%
003.11	Fat, Crude, NIR (%)	3	3	2.929	0.2396	2.929	0.2396	0.1383	8.18%	0.0417	3.40%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	3	3	3.262	0.1807	3.262	0.1807	0.1043	5.54%	0.1167	3.35%
004.07	Fiber, Crude, ANKOM (%)	77	75	15.83	1.213	15.84	0.8509	0.1228	5.37%	0.2775	2.51%
004.06	Fiber, Crude, Fibertec (%)	15	15	15.69	0.6731	15.65	0.6333	0.2044	4.05%	0.1581	2.53%
004.00	Fiber, Crude, Asbestos Free (%)	11	10	16.22	1.371	15.97	0.5819	0.2300	3.64%	0.1316	2.50%

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004.03	Fiber, Crude, Fritted Glass (%)	4	3	15.40	1.175	15.40	1.175	0.6785	7.63%	0.0867	2.55%
004.11	Fiber, Crude, NIR (%)	3	3	15.67	1.533	15.67	1.533	0.8852	9.79%	0.5500	2.53%
004.99	Fiber, Crude, Miscellaneous (%)	2	2	17.39	1.970						
005.00	Ash, 2h @ 600°C (%)	94	93	7.690	0.2398	7.699	0.2151	0.0279	2.79%	0.1056	2.94%
005.05	Ash, 3h @ 550°C (%)	30	30	8.025	0.3915	7.984	0.2174	0.0496	2.72%	0.0687	2.93%
005.99	Ash, Miscellaneous (%)	8	8	7.898	0.2806	7.910	0.2886	0.1275	3.65%	0.1223	2.93%
005.11	Ash, NIR (%)	3	3	7.669	1.064	7.669	1.064	0.6142	13.87%	0.2450	2.94%
005.02	Ash, LECO (%)	1	1	7.750							
005.03	Ash, Microwave furnace (%)	1	1	7.650							
006.99	Total Sugars, Miscellaneous (%)	6	6	4.025	0.9734	4.107	0.9072	0.4630	22.09%	0.1200	3.23%
006.00	Total Sugars, As sucrose (%)	3	3	4.460	1.003	4.460	1.003	0.5791	22.49%	0.3389	3.19%
006.03	Total Sugars, Invert w/o Invsrn (%)	1	1	3.865							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	47	46	20.78	1.112	20.70	1.030	0.1898	4.98%	0.3552	2.20%
008.02	Fiber, Acid Detergent, Crucible (%)	15	14	20.81	0.9402	20.83	1.019	0.3404	4.89%	0.2293	2.19%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	1	1	22.67							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	42	35.61	1.401	35.52	1.306	0.2519	3.68%	0.4630	1.68%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	15	14	35.90	1.225	35.84	1.247	0.4167	3.48%	0.4206	1.67%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	3	3	32.60	9.484	32.60	9.484	5.475	29.09%	0.5517	1.75%
010.99	Moisture, Miscellaneous (%)	18	18	9.106	0.5128	9.064	0.4818	0.1420	5.32%	0.1892	2.87%
010.11	Moisture, NIR (%)	4	4	9.146	1.279	9.146	1.279	0.6393	13.98%	0.0825	2.87%
010.03	Moisture, Karl-Fischer (%)	2	2	9.623	0.7672						
011.01	Loss on Drying, HT, 135°C 2hr (%)	67	66	9.511	0.6029	9.577	0.4577	0.0704	4.78%	0.0991	2.85%
011.99	Loss on Drying, HT, High Temp. Methods Miscellaneous (%)	4	4	9.474	0.3585	9.474	0.3585	0.1792	3.78%	0.0760	2.85%
011.02	Loss on Drying, HT, 130°C for 2 hours (%)	1	1	9.410							
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	13	12	13.77	3.498	14.50	1.571	0.5669	10.83%	0.3027	2.63%
012.00	Starch, Polarimetric (Ewers) (%)	11	11	16.59	0.6167	16.63	0.5940	0.2239	3.57%	0.2517	2.45%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	9	9	15.14	0.8140	15.14	0.9193	0.3831	6.07%	0.4748	2.57%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	1	1	16.07							
012.11	Starch, NIR (%)	1	1	15.65							
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	15.29							
012.99	Starch, Miscellaneous (%)	1	1	14.87							
013.00	Fat, Pretreat, Acid hydrolysis (%)	16	16	3.990	0.3664	3.969	0.3636	0.1136	9.16%	0.1304	3.25%
013.02	Fat, Pretreat, Mojonniere, Bak Ext, Acid hydrolysis (%)	14	14	4.441	0.5358	4.486	0.4541	0.1517	10.12%	0.0722	3.19%
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	9	9	4.085	0.6493	4.085	0.7363	0.3068	18.02%	0.1495	3.24%
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	7	7	3.970	0.6996	3.996	0.7334	0.3465	18.35%	0.2068	3.25%
013.08	Fat, Pretreat, Roese-Gottlieb Modified, Alkaline Hydrolysis (%)	1	1	2.535							
015.43	Aluminum, ICP, Microwave (ppm)	8	8	150.7	27.71	153.9	23.42	10.35	15.22%	3.566	7.50%
015.41	Aluminum, ICP, Dry ash (ppm)	4	4	131.2	15.98	131.2	15.98	7.990	12.18%	2.231	7.68%
015.42	Aluminum, ICP, Open vessel (ppm)	2	2	87.00	36.77						
015.53	Aluminum, ICP-MS, Microwave (ppm)	2	2	143.9	11.18						

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015.99	Aluminum, Miscellaneous (ppm)	1	1	70.80							
017.43	Boron, ICP, Microwave (ppm)	6	6	9.508	0.6371	9.502	0.7093	0.3620	7.47%	0.2311	11.40%
017.41	Boron, ICP, Dry ash (ppm)	5	5	10.49	0.5687	10.49	0.5687	0.2543	5.42%	0.1871	11.23%
017.42	Boron, ICP, Open vessel (ppm)	4	4	10.37	1.889	10.37	1.889	0.9447	18.22%	0.5870	11.25%
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	9.576							
017.99	Boron, Miscellaneous (ppm)	1	1	9.450							
019.43	Calcium, ICP, Microwave (%)	30	30	1.266	0.0729	1.261	0.0540	0.0123	4.28%	0.0294	3.86%
019.41	Calcium, ICP, Dry ash (%)	22	22	1.272	0.0835	1.270	0.0848	0.0226	6.68%	0.0284	3.86%
019.31	Calcium, AAS, Dry ash (%)	19	19	1.249	0.1301	1.225	0.0765	0.0219	6.24%	0.0287	3.88%
019.42	Calcium, ICP, Open vessel (%)	19	18	1.288	0.0724	1.288	0.0786	0.0232	6.11%	0.0440	3.85%
019.08	Calcium, EDTA (%)	12	11	1.276	0.0322	1.275	0.0308	0.0116	2.41%	0.0140	3.86%
019.00	Calcium, Ox-MnO4 Vol. (%)	6	6	1.283	0.0639	1.282	0.0725	0.0370	5.65%	0.0536	3.85%
019.99	Calcium, Miscellaneous (%)	6	6	1.187	0.0783	1.187	0.0888	0.0453	7.48%	0.0270	3.90%
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	1.385	0.1897	1.385	0.1897	0.1095	13.69%	0.0543	3.81%
019.53	Calcium, ICP-MS, Microwave (%)	2	2	1.217	0.0452						
019.02	Calcium, Hach Method (%)	1	1	1.225							
019.32	Calcium, AAS, Open vessel (%)	1	1	1.200							
019.44	Calcium, ICP, Dry ash (%)	1	1	1.280							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	1.235							
021.43	Cobalt, ICP, Microwave (ppm)	13	12	2.497	0.3324	2.497	0.3769	0.1360	15.09%	0.1041	13.94%
021.41	Cobalt, ICP, Dry ash (ppm)	6	6	3.253	1.948	2.726	0.8366	0.4269	30.69%	0.1426	13.76%
021.53	Cobalt, ICP-MS, Microwave (ppm)	4	4	2.633	0.2021	2.633	0.2021	0.1010	7.68%	0.1574	13.83%
021.42	Cobalt, ICP, Open vessel (ppm)	3	3	2.225	0.3941	2.225	0.3941	0.2786	17.71%	0.2500	14.18%
021.52	Cobalt, ICP-MS, Open vessel (ppm)	3	3	2.212	0.2829	2.212	0.2829	0.1633	12.79%	0.0767	14.20%
021.31	Cobalt, AAS, Dry ash (ppm)	2	2	2.613	0.1815						
021.99	Cobalt, Miscellaneous (ppm)	1	1	2.345							
022.43	Copper, ICP, Microwave (ppm)	29	28	49.39	3.846	49.69	3.345	0.7902	6.73%	1.893	8.89%
022.42	Copper, ICP, Open vessel (ppm)	21	21	51.87	4.878	51.11	3.327	0.9076	6.51%	2.208	8.85%
022.41	Copper, ICP, Dry ash (ppm)	17	17	48.50	4.257	48.90	3.480	1.055	7.12%	1.935	8.91%
022.31	Copper, AAS, Dry ash (ppm)	13	13	46.92	7.285	47.57	6.760	2.344	14.21%	1.286	8.95%
022.99	Copper, Miscellaneous (ppm)	4	4	45.48	2.094	45.48	2.094	1.047	4.60%	2.800	9.01%
022.44	Copper, ICP, Dry ash (ppm)	2	2	52.20	3.818						
022.52	Copper, ICP-MS, Open vessel (ppm)	2	2	53.81	8.775						
022.53	Copper, ICP-MS, Microwave (ppm)	2	2	48.80	2.684						
022.32	Copper, AAS, Open vessel (ppm)	1	1	46.10							
022.33	Copper, AAS, Microwave (ppm)	1	1	49.42							
022.35	Copper, AAS, Dry ash (ppm)	1	1	41.33							
024.52	Iodine, ICP-MS, Open vessel (ppm)	1	1	7.095							
025.43	Iron, ICP, Microwave (ppm)	27	26	342.3	20.25	341.8	21.93	5.375	6.41%	7.842	6.65%
025.42	Iron, ICP, Open vessel (ppm)	19	19	341.8	78.59	329.6	35.42	10.16	10.75%	17.13	6.68%

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025.41	Iron, ICP, Dry ash (ppm)	18	18	329.4	26.08	331.8	23.80	7.012	7.17%	8.453	6.68%
025.31	Iron, AAS, Dry ash (ppm)	13	13	338.7	41.48	339.4	37.21	12.90	10.96%	18.91	6.66%
025.99	Iron, Miscellaneous (ppm)	4	4	358.9	88.97	358.9	88.97	44.49	24.79%	13.38	6.60%
025.53	Iron, ICP-MS, Microwave (ppm)	3	3	331.6	11.94	331.6	11.94	6.895	3.60%	4.966	6.68%
025.34	Iron, AAS, Dry ash (ppm)	2	2	341.9	27.76						
025.33	Iron, AAS, Microwave (ppm)	1	1	355.3							
025.52	Iron, ICP-MS, Open vessel (ppm)	1	1	374.5							
027.43	Magnesium, ICP, Microwave (%)	27	26	0.3520	0.0160	0.3521	0.0168	0.0041	4.79%	0.0070	4.68%
027.42	Magnesium, ICP, Open vessel (%)	20	20	0.3548	0.0386	0.3592	0.0160	0.0045	4.44%	0.0100	4.67%
027.41	Magnesium, ICP, Dry ash (%)	18	18	0.3531	0.0173	0.3531	0.0196	0.0058	5.56%	0.0093	4.68%
027.31	Magnesium, AAS, Dry ash (%)	10	10	0.3495	0.0231	0.3472	0.0179	0.0071	5.17%	0.0048	4.69%
027.99	Magnesium, Miscellaneous (%)	6	6	0.3778	0.0566	0.3778	0.0642	0.0328	16.99%	0.0078	4.63%
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.3845	0.0231	0.3845	0.0231	0.0133	6.00%	0.0176	4.62%
027.53	Magnesium, ICP-MS, Microwave (%)	2	2	0.3567	0.0166						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.3550							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.3700							
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.3540							
028.43	Manganese, ICP, Microwave (ppm)	28	28	187.7	9.824	188.1	9.950	2.351	5.29%	5.962	7.27%
028.42	Manganese, ICP, Open vessel (ppm)	21	21	195.8	18.04	197.1	14.00	3.818	7.10%	9.295	7.22%
028.41	Manganese, ICP, Dry ash (ppm)	16	16	185.8	21.08	188.9	13.00	4.061	6.88%	4.266	7.27%
028.31	Manganese, AAS, Dry ash (ppm)	10	10	182.4	20.27	188.2	9.182	3.630	4.88%	4.129	7.27%
028.53	Manganese, ICP-MS, Microwave (ppm)	4	4	188.3	13.26	188.3	13.26	6.629	7.04%	9.640	7.27%
028.99	Manganese, Miscellaneous (ppm)	5	3	180.8	5.752	180.8	5.752	3.321	3.18%	4.333	7.32%
028.34	Manganese, AAS, Dry ash (ppm)	2	2	173.6	15.81						
028.44	Manganese, ICP, Dry ash (ppm)	2	2	175.4	30.59						
028.52	Manganese, ICP-MS, Open vessel (ppm)	2	2	218.3	22.69						
028.32	Manganese, AAS, Open vessel (ppm)	1	1	196.0							
028.33	Manganese, AAS, Microwave (ppm)	1	1	174.4							
030.01	Nitrate, Ion-selective electrode (%)	1	1	0.0082							
031.01	Phosphorus, Photometric (%)	35	35	0.7693	0.0338	0.7676	0.0281	0.0059	3.66%	0.0168	4.16%
031.43	Phosphorus, ICP, Microwave (%)	27	26	0.7851	0.0257	0.7841	0.0265	0.0065	3.38%	0.0195	4.15%
031.41	Phosphorus, ICP, Dry ash (%)	21	21	0.7887	0.0488	0.7858	0.0375	0.0102	4.78%	0.0264	4.15%
031.42	Phosphorus, ICP, Open vessel (%)	19	18	0.7885	0.0384	0.7890	0.0425	0.0125	5.39%	0.0113	4.14%
031.99	Phosphorus, Miscellaneous (%)	5	5	0.7390	0.0441	0.7390	0.0441	0.0197	5.96%	0.0180	4.19%
031.03	Phosphorus, Autoanalyzer (%)	2	2	0.7573	0.0391						
031.44	Phosphorus, ICP, Dry ash (%)	2	2	0.7658	0.0286						
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.8778	0.1502						
031.53	Phosphorus, ICP-MS, Microwave (%)	2	2	0.7851	0.0142						
031.06	Phosphorus, Hach Method (%)	1	1	0.7750							
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	0.7600							

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032.43	Potassium, ICP, Microwave (%)	28	28	1.167	0.0424	1.166	0.0425	0.0100	3.65%	0.0205	3.91%
032.41	Potassium, ICP, Dry ash (%)	19	19	1.142	0.0627	1.143	0.0602	0.0173	5.27%	0.0327	3.92%
032.42	Potassium, ICP, Open vessel (%)	18	17	1.167	0.1046	1.182	0.0728	0.0221	6.16%	0.0164	3.90%
032.31	Potassium, AAS, Dry ash (%)	10	9	1.131	0.0820	1.133	0.0893	0.0372	7.88%	0.0184	3.93%
032.99	Potassium, Miscellaneous (%)	6	6	1.154	0.0442	1.154	0.0501	0.0256	4.34%	0.0298	3.91%
032.52	Potassium, ICP-MS, Open vessel (%)	3	3	1.149	0.0847	1.149	0.0847	0.0489	7.37%	0.0108	3.92%
032.02	Potassium, Flame Emission (%)	2	2	1.124	0.0375						
032.53	Potassium, ICP-MS, Microwave (%)	2	2	1.168	0.0184						
032.32	Potassium, AAS, Open vessel (%)	1	1	1.180							
032.44	Potassium, ICP, Dry ash (%)	1	1	1.195							
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	1.110							
033.01	Salt as chloride, Poten Cl (%)	30	29	1.115	0.0330	1.115	0.0251	0.0058	2.25%	0.0179	3.93%
033.00	Salt as chloride, Sol Cl (%)	16	15	1.028	0.1426	1.064	0.0738	0.0238	6.94%	0.0180	3.96%
033.99	Salt, Miscellaneous (%)	13	11	1.041	0.1267	1.066	0.0724	0.0273	6.79%	0.0255	3.96%
033.03	Salt as chloride, Quantab (%)	3	3	0.9267	0.0603	0.9267	0.0603	0.0426	6.51%		4.05%
033.05	Salt as chloride, Ion Sel Electrode (%)	2	2	1.040	0.0424						
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	8	8	2.688	0.4543	2.778	0.2728	0.1206	9.82%	0.0998	13.72%
034.04	Selenium, Total (Se), AA, Hydride (ppm)	3	3	3.462	1.107	3.462	1.107	0.6391	31.97%	0.2802	13.27%
034.41	Selenium, Total (Se), ICP, Dry ash (ppm)	3	3	2.999	1.448	2.999	1.448	0.8362	48.29%	0.1820	13.56%
034.43	Selenium, Total (Se), ICP, Microwave (ppm)	5	3	3.043	0.6704	3.043	0.6704	0.3870	22.03%	0.1027	13.53%
034.52	Selenium, Total (Se), ICP-MS, Open vessel (ppm)	3	3	2.695	0.3169	2.695	0.3169	0.1829	11.76%	0.0917	13.78%
034.01	Selenium, Total (Se), Fluor (ppm)	1	1	2.795							
034.42	Selenium, Total (Se), ICP, Open vessel (ppm)	1	1	4.550							
034.99	Selenium, Total (Se), Miscellaneous (ppm)	1	1	2.505							
035.43	Sodium, ICP, Microwave (%)	26	26	0.4249	0.0227	0.4221	0.0189	0.0046	4.48%	0.0111	4.55%
035.41	Sodium, ICP, Dry ash (%)	21	21	0.4203	0.0226	0.4211	0.0225	0.0061	5.35%	0.0147	4.56%
035.42	Sodium, ICP, Open vessel (%)	17	16	0.4331	0.0212	0.4323	0.0223	0.0070	5.16%	0.0118	4.54%
035.31	Sodium, AAS, Dry ash (%)	11	10	0.4008	0.0337	0.4005	0.0375	0.0148	9.37%	0.0172	4.59%
035.99	Sodium, Miscellaneous (%)	5	5	0.4085	0.0150	0.4085	0.0150	0.0067	3.66%	0.0188	4.58%
035.05	Sodium, Flame Emission (%)	2	2	0.4343	0.0930						
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.4466	0.0022						
035.53	Sodium, ICP-MS, Microwave (%)	2	2	0.4198	0.0279						
035.02	Sodium, Em Spect (%)	1	1	0.3900							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.4300							
036.43	Sulfur, ICP, Microwave (%)	20	20	0.3588	0.0235	0.3600	0.0225	0.0063	6.26%	0.0101	4.66%
036.42	Sulfur, ICP, Open vessel (%)	17	17	0.3468	0.0141	0.3459	0.0139	0.0042	4.02%	0.0144	4.69%
036.04	Sulfur, LECO (%)	7	7	0.3375	0.0154	0.3380	0.0164	0.0077	4.84%	0.0110	4.71%
036.99	Sulfur, Miscellaneous (%)	2	2	0.3225	0.0248						
036.52	Sulfur, ICP-MS, Open vessel (%)	1	1	0.3652							
037.43	Zinc, ICP, Microwave (ppm)	29	29	364.7	21.21	364.7	22.17	5.146	6.08%	8.774	6.58%

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037.42	Zinc, ICP, Open vessel (ppm)	20	19	362.6	22.87	362.5	25.24	7.237	6.96%	10.65	6.59%
037.41	Zinc, ICP, Dry ash (ppm)	17	16	362.5	21.31	361.8	17.12	5.349	4.73%	7.078	6.59%
037.31	Zinc, AAS, Dry ash (ppm)	12	12	349.4	32.89	353.2	27.21	9.820	7.71%	3.725	6.62%
037.99	Zinc, Miscellaneous (ppm)	6	6	321.7	180.0	330.2	184.0	93.88	55.71%	9.598	6.68%
037.53	Zinc, ICP-MS, Microwave (ppm)	3	3	350.5	9.756	350.5	9.756	5.633	2.78%	9.007	6.62%
037.52	Zinc, ICP-MS, Open vessel (ppm)	2	2	409.6	53.04						
037.32	Zinc, AAS, Open vessel (ppm)	1	1	347.5							
037.33	Zinc, AAS, Microwave (ppm)	1	1	354.2							
037.34	Zinc, AAS, Dry ash (ppm)	1	1	294.5							
037.44	Zinc, ICP, Dry ash (ppm)	1	1	260.0							
038.43	Molybdenum, ICP, Microwave (ppm)	8	8	2.145	0.2351	2.169	0.2090	0.0924	9.64%	0.1055	14.24%
038.42	Molybdenum, ICP, Open vessel (ppm)	5	5	2.342	0.4158	2.342	0.4158	0.1860	17.75%	0.2520	14.07%
038.41	Molybdenum, ICP, Dry ash (ppm)	2	2	2.169	0.3909						
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	2	2	1.993	0.0743						
038.53	Molybdenum, ICP-MS, Microwave (ppm)	2	2	2.270	0.0570						
038.99	Molybdenum, Miscellaneous (ppm)	1	1	2.250							
040.43	Barium, ICP, Microwave (ppm)	1	1	17.64							
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	15.72							
041.53	Vanadium, ICP-MS, Microwave (ppm)	1	1	1.374							
042.00	Chloride, Titrimetric (%)	7	7	0.7104	0.0648	0.7066	0.0646	0.0305	9.14%	0.0153	4.21%
042.01	Chloride, Ion-selective electrode (%)	1	1	0.6703							
042.99	Chloride, Miscellaneous (%)	1	1	1.095							
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	1,360							
102.01	Niacin, Microbiological (ppm)	1	1	85.05							
102.02	Niacin, LC (ppm)	1	1	19.15							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	8.630							
104.00	Riboflavin, Fluorometric (ppm)	1	1	2.060							
104.03	Riboflavin, LC (ppm)	1	1	0.9800							
105.00	Thiamine, LC (ppm)	1	1	1.565							
105.01	Thiamine, Fluorometer (ppm)	1	1	4.290							
106.02	Vitamin A, LC (KU / kg)	12	12	25.33	5.374	24.56	4.176	1.507	17.00%	3.543	
106.00	Vitamin A, Color (KU / kg)	1	1	18.35							
106.01	Vitamin A, UV (KU / kg)	1	1	22.90							
107.00	Vitamin B12, Microbiological (ppb)	1	1	6.220							
108.02	Vitamin D3, LC (KU / kg)	4	3	6.620	0.8266	6.620	0.8266	0.4772	12.49%	0.9067	
108.99	Vitamin D3, Miscellaneous (KU / kg)	1	1	6.460							
109.02	Vitamin E, LC (IU / kg)	9	9	88.27	12.26	87.94	10.94	4.559	12.44%	2.348	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	107.0							
111.98	Vitamin C, Ascorbic Acid, Miscellaneous (ppm)	1	1	1.800							
111.00	Vitamin C, Phosphorylated, LC (ppm)	1		4.400							

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112.01	Pyridoxine, LC (µg / g)	2	2	3.327	0.6410						
113.01	Folic Acid, Micro (ppm)	1	1	1.005							
113.02	Folic acid, LC (ppm)	1		0.2500							
114.01	Biotin, Microbiological (ppm)	1	1	0.2345							
114.99	Biotin, Miscellaneous (ppm)	1	1	0.1605							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	3	3	0.8490	0.5816	0.8490	0.5816	0.3358	68.50%	0.0313	4.10%
115.99	Non Protein N (NPN), Miscellaneous (%)	3	3	0.2960	0.4074	0.2960	0.4074	0.2352	137.63%	0.0220	4.80%
120.00	Alanine, Post-col Ninhydrin Der (%)	17	16	0.7148	0.0140	0.7149	0.0157	0.0049	2.19%	0.0075	4.21%
120.05	Alanine, Pre-col AQC Der (%)	8	8	0.7182	0.0570	0.7161	0.0599	0.0265	8.36%	0.0142	4.21%
120.99	Alanine, Miscellaneous (%)	3	3	0.7037	0.0549	0.7037	0.0549	0.0317	7.80%	0.0090	4.22%
120.01	Alanine, Pre-col OPA Der (%)	1	1	0.7485							
120.02	Alanine, Post-col OPA Der (%)	1	1	0.6955							
121.00	Arginine, Post-col Ninhydrin Der (%)	17	16	1.124	0.0303	1.120	0.0251	0.0079	2.24%	0.0119	3.93%
121.05	Arginine, Pre-col AQC Der (%)	8	8	1.104	0.0506	1.104	0.0574	0.0254	5.20%	0.0171	3.94%
121.99	Arginine, Miscellaneous (%)	3	3	1.020	0.0976	1.020	0.0976	0.0563	9.57%	0.0167	3.99%
121.01	Arginine, Pre-col OPA Der (%)	1	1	1.211							
121.02	Arginine, Post-col OPA Der (%)	1	1	1.072							
122.00	Aspartic, Post-col Ninhydrin Der (%)	17	17	1.233	0.0330	1.228	0.0268	0.0081	2.18%	0.0137	3.88%
122.05	Aspartic, Pre-col AQC Der (%)	8	8	1.236	0.1126	1.236	0.1277	0.0564	10.33%	0.0308	3.87%
122.99	Aspartic, Miscellaneous (%)	3	3	1.183	0.0455	1.183	0.0455	0.0263	3.85%	0.0183	3.90%
122.01	Aspartic, Pre-col OPA Der (%)	1	1	1.290							
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.191							
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	17	17	0.2923	0.0222	0.2893	0.0156	0.0047	5.39%	0.0069	4.82%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	8	0.2904	0.0627	0.2931	0.0635	0.0281	21.66%	0.0113	4.81%
124.99	Cysteine/Cystine, Miscellaneous (%)	4	4	0.2946	0.0239	0.2946	0.0239	0.0119	8.11%	0.0097	4.81%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.3390							
125.00	Glutamic, Post-col Ninhydrin Der (%)	17	16	2.770	0.0581	2.770	0.0648	0.0202	2.34%	0.0391	3.43%
125.05	Glutamic, Pre-col AQC Der (%)	8	8	2.800	0.2527	2.813	0.2573	0.1137	9.15%	0.0545	3.42%
125.99	Glutamic, Miscellaneous (%)	3	3	2.781	0.0113	2.781	0.0113	0.0065	0.41%	0.0277	3.43%
125.01	Glutamic, Pre-col OPA Der (%)	1	1	3.820							
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.716							
126.00	Glycine, Post-col Ninhydrin Der (%)	17	16	0.7761	0.0365	0.7811	0.0180	0.0056	2.31%	0.0086	4.15%
126.05	Glycine, Pre-col AQC Der (%)	8	8	0.7726	0.0323	0.7726	0.0367	0.0162	4.75%	0.0209	4.16%
126.99	Glycine, Miscellaneous (%)	3	3	0.6395	0.2237	0.6395	0.2237	0.1291	34.97%	0.0055	4.28%
126.01	Glycine, Pre-col OPA Der (%)	1	1	0.6870							
126.02	Glycine, Post-col OPA Der (%)	1	1	0.7575							
127.00	Histidine, Post-col Ninhydrin Der (%)	17	16	0.4051	0.0194	0.4046	0.0171	0.0053	4.22%	0.0084	4.58%
127.05	Histidine, Pre-col AQC Der (%)	8	8	0.3964	0.0324	0.3906	0.0213	0.0094	5.44%	0.0115	4.61%
127.99	Histidine, Miscellaneous (%)	3	3	0.3933	0.0147	0.3933	0.0147	0.0085	3.72%	0.0030	4.60%
127.01	Histidine, Pre-col OPA Der (%)	1	1	0.3955							

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127.02	Histidine, Post-col OPA Der (%)	1	1	0.3890							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	17	16	0.5027	0.0226	0.5026	0.0147	0.0046	2.92%	0.0110	4.44%
128.05	Isoleucine, Pre-col AQC Der (%)	8	8	0.5023	0.0372	0.5023	0.0422	0.0187	8.41%	0.0081	4.44%
128.99	Isoleucine, Miscellaneous (%)	3	3	0.5055	0.0124	0.5055	0.0124	0.0071	2.45%	0.0105	4.43%
128.01	Isoleucine, Pre-col OPA Der (%)	1	1	0.5545							
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.5060							
129.00	Leucine, Post-col Ninhydrin Der (%)	17	16	1.024	0.0179	1.023	0.0184	0.0058	1.80%	0.0141	3.99%
129.05	Leucine, Pre-col AQC Der (%)	8	8	1.026	0.0606	1.026	0.0688	0.0304	6.70%	0.0150	3.98%
129.99	Leucine, Miscellaneous (%)	3	3	1.036	0.0314	1.036	0.0314	0.0181	3.03%	0.0170	3.98%
129.01	Leucine, Pre-col OPA Der (%)	1	1	1.106							
129.02	Leucine, Post-col OPA Der (%)	1	1	1.015							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	17	16	0.6729	0.0350	0.6728	0.0344	0.0108	5.12%	0.0067	4.25%
130.05	L-Lysine, Pre-col AQC Der (%)	8	8	0.6619	0.0436	0.6635	0.0458	0.0202	6.90%	0.0236	4.25%
130.99	L-Lysine, Miscellaneous (%)	4	4	0.6750	0.0482	0.6750	0.0482	0.0241	7.14%	0.0189	4.24%
130.01	L-Lysine, Pre-col OPA Der (%)	1	1	0.5845							
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.7275							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	17	17	0.2203	0.0178	0.2190	0.0144	0.0044	6.58%	0.0056	5.03%
131.05	Methionine, PAO Pre-col AQC Der (%)	8	8	0.2401	0.0460	0.2382	0.0477	0.0211	20.05%	0.0088	4.96%
131.99	Methionine, Miscellaneous (%)	4	3	0.2282	0.0074	0.2282	0.0074	0.0052	3.25%		5.00%
131.01	Methionine, PAO Pre-col OPA Der (%)	1	1	0.3125							
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2175							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	17	17	0.6880	0.0349	0.6842	0.0256	0.0078	3.74%	0.0115	4.23%
132.05	Phenylalanine, Pre-col AQC Der (%)	8	8	0.6911	0.0299	0.6911	0.0339	0.0150	4.90%	0.0219	4.23%
132.99	Phenylalanine, Miscellaneous (%)	3	3	0.6842	0.0113	0.6842	0.0113	0.0065	1.65%	0.0083	4.23%
132.01	Phenylalanine, Pre-col OPA Der (%)	1	1	0.7345							
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.6775							
133.00	Proline, Post-col Ninhydrin Der (%)	17	16	0.8665	0.0541	0.8554	0.0326	0.0102	3.82%	0.0168	4.09%
133.05	Proline, Pre-col AQC Der (%)	8	8	0.8752	0.0326	0.8752	0.0370	0.0164	4.23%	0.0152	4.08%
133.99	Proline, Miscellaneous (%)	3	3	0.8477	0.0877	0.8477	0.0877	0.0506	10.34%	0.0120	4.10%
133.04	Proline, Pre-col FMOC Der (%)	1	1	0.9100							
134.00	Serine, Post-col Ninhydrin Der (%)	17	16	0.7136	0.0178	0.7126	0.0180	0.0056	2.53%	0.0099	4.21%
134.05	Serine, Pre-col AQC Der (%)	7	7	0.7212	0.0652	0.7212	0.0739	0.0349	10.24%	0.0310	4.20%
134.99	Serine, Miscellaneous (%)	3	3	0.7145	0.0183	0.7145	0.0183	0.0105	2.56%	0.0090	4.21%
134.01	Serine, Pre-col OPA Der (%)	1	1	0.7320							
134.02	Serine, Post-col OPA Der (%)	1	1	0.6145							
135.00	Threonine, Post-col Ninhydrin Der (%)	17	16	0.5126	0.0125	0.5123	0.0136	0.0042	2.65%	0.0066	4.42%
135.05	Threonine, Pre-col AQC Der (%)	8	8	0.5196	0.0242	0.5196	0.0275	0.0121	5.29%	0.0155	4.41%
135.99	Threonine, Miscellaneous (%)	4	4	0.5338	0.0324	0.5338	0.0324	0.0162	6.07%	0.0112	4.40%
135.01	Threonine, Pre-col OPA Der (%)	1	1	0.5880							
135.02	Threonine, Post-col OPA Der (%)	1	1	0.4940							

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136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	7	7	0.2090	0.0144	0.2090	0.0163	0.0077	7.80%	0.0034	5.06%
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	6	6	0.2242	0.0349	0.2242	0.0396	0.0202	17.67%	0.0095	5.01%
136.05	Tryptophan, Pre-col AQC Der (%)	4	4	0.1920	0.0325	0.1920	0.0325	0.0163	16.94%	0.0090	5.13%
136.99	Tryptophan, Miscellaneous (%)	3	3	0.2592	0.1716	0.2592	0.1716	0.0991	66.18%	0.0100	4.90%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	2	2	0.2165	0.0035						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2045							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	14	13	0.4477	0.0586	0.4486	0.0645	0.0224	14.38%	0.0049	4.51%
137.05	Tyrosine, Pre-col AQC Der (%)	8	8	0.4548	0.0389	0.4548	0.0441	0.0195	9.69%	0.0264	4.50%
137.99	Tyrosine, Miscellaneous (%)	3	3	0.4397	0.0134	0.4397	0.0134	0.0078	3.05%	0.0113	4.53%
137.01	Tyrosine, Pre-col OPA Der (%)	1	1	0.5435							
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.4080							
138.00	Valine, Post-col Ninhydrin Der (%)	17	16	0.6857	0.0330	0.6845	0.0342	0.0107	4.99%	0.0148	4.23%
138.05	Valine, Pre-col AQC Der (%)	7	7	0.6849	0.0412	0.6849	0.0467	0.0221	6.81%	0.0195	4.23%
138.99	Valine, Miscellaneous (%)	3	3	0.6877	0.0325	0.6877	0.0325	0.0188	4.73%	0.0127	4.23%
138.01	Valine, Pre-col OPA Der (%)	1	1	0.8085							
138.02	Valine, Post-col OPA Der (%)	1	1	0.6900							
139.00	Taurine, Post-col Ninhydrin Der (%)	3	3	0.0834	0.0629	0.0834	0.0629	0.0445	75.38%		5.81%
139.05	Taurine, Pre-col AQC Der (%)	2	1	0.1660							
139.99	Taurine, Miscellaneous (%)	3	1								
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
160.99	Fructose, Miscellaneous (%)	1	1	0.3400							
162.99	Glucose, Miscellaneous (%)	2	2	1.850	2.334						
163.99	Lactose, Miscellaneous (%)	1		0.1500							
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.99	Sucrose, Miscellaneous (%)	1	1	1.685							
166.99	Raffinose, Miscellaneous (%)	1	1	0.7600							
167.99	Stachyose, Miscellaneous (%)	1	1	0.7350							
351.03	Chlortetracycline, LC (UV or FL) (ppm)	1		1.000							
354.01	Decoquinat, LC (UV or FL) (ppm)	1		0.1000							
361.02	Lasalocid Sodium, LC (ppm)	1	1	0.3500							
365.02	Monensin, LC (ppm)	1		0.1000							
367.99	Nicarbazin, Miscellaneous (ppm)	1		0.1000							
386.99	Tiamulin, Miscellaneous (ppm)	1		1.000							
388.03	Tylosin, LC (ppm)	1		0.2000							
400.01	Water Activity, Aqualab chilled mirror (Units)	13	12	0.5358	0.0236	0.5308	0.0105	0.0038	1.99%	0.0019	
400.99	Water Activity, Miscellaneous (Units)	5	4	0.5245	0.0210	0.5245	0.0210	0.0105	3.99%	0.0040	
516.52	Arsenic, Total (As), ICP-MS, Open vessel (ppm)	2	2	0.0780	0.0029						
516.53	Arsenic, Total (As), ICP-MS, Microwave (ppm)	2	2	0.0854	0.0019						
516.00	Arsenic, Total (As), AA, Hydride (ppm)	1	1	0.0640							
516.43	Arsenic, Total (As), ICP, Microwave (ppm)	1		20.00							

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 (Rob R-bar)	Thompson Horwitz %RSD
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.0709	0.0083						
518.52	Cadmium, ICP-MS, Open vessel (ppm)	2	2	0.0967	0.0024						
518.53	Cadmium, ICP-MS, Microwave (ppm)	2	2	0.0891	0.0072						
518.34	Cadmium, AAS, Graphite furnace (ppm)	1	1	3.610							
518.43	Cadmium, ICP, Microwave (ppm)	2	1	0.0529							
520.43	Chromium, Total (Cr), ICP, Microwave (ppm)	8	7	3.952	0.7648	4.014	0.7199	0.3401	17.93%	0.0227	12.98%
520.41	Chromium, Total (Cr), ICP, Dry ash (ppm)	2	2	2.174	0.1702						
520.42	Chromium, Total (Cr), ICP, Open vessel (ppm)	2	2	4.290	0.0424						
520.53	Chromium, Total (Cr), ICP-MS, Microwave (ppm)	2	2	3.898	0.4353						
520.51	Chromium, Total (Cr), ICP-MS, Dry ash (ppm)	1	1	1.020							
520.52	Chromium, Total (Cr), ICP-MS, Open vessel (ppm)	1	1	1.366							
526.41	Lead, ICP, Dry ash (ppm)	2	2	0.1217	0.0371						
526.53	Lead, ICP-MS, Microwave (ppm)	2	2	0.0884	0.0027						
526.43	Lead, ICP, Microwave (ppm)	2	1	0.2036							
526.52	Lead, ICP-MS, Open vessel (ppm)	2	1	0.1020							
529.99	Mercury, Miscellaneous (ppb)	5	3	3.721	5.438	3.721	5.438	3.845	146.15%	0.0573	22.00%
539.43	Nickel, ICP, Microwave (ppm)	5	4	3.660	0.3312	3.660	0.3312	0.1656	9.05%	0.0729	13.16%
539.41	Nickel, ICP, Dry ash (ppm)	1	1	2.643							
539.51	Nickel, ICP-MS, Dry ash (ppm)	1	1	1.990							
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	2.130							
539.53	Nickel, ICP-MS, Microwave (ppm)	1	1	3.494							
706.99	Caprylic acid (8:0), Miscellaneous (% (w/w))	1		0.0500							
708.99	Capric acid (10:0), Miscellaneous (% (w/w))	1		0.0500							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3									
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	2	2	0.1264	0.1677						
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	8.852	11.67						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	3	0.0914	0.1417	0.0914	0.1417	0.1002	155.15%	0.0051	5.73%
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	2	1.144	1.507						
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	9.421	12.41						
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	18.97	29.50	18.97	29.50	20.86	155.52%	0.0475	2.30%
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	3	3	1.386	2.160	1.386	2.160	1.527	155.82%	0.0310	3.81%
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	2	0.1557	0.2041						
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.0147							
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))	3	1								
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	2	0.1571	0.2092						
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	2	1	0.0850							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	3									
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	2	2	0.1480	0.1938						
750.99	Docosaheptaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	3									

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 (Rob R-bar)	Thompson Horwitz %RSD
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	0.1600	0.0141						
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	2	2	2.003	0.0813						
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	20.93							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	19.17							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	57.00							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	1	1	3.460							

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.



AAFCO
Association of American Feed Control Officials



Animal Feed Scheme

Methods Reported: 131

Goat Feed

Method Precision Report

Labs Reporting: 177

Test Material Code # 202426

Issue Date : 07/31/2024

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
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	5	8.743	0.3059	0.3055	0.0228	0.3064	3.49%	0.26%	3.50%	13.43
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	48	45	8.920	0.4226	0.3715	0.0863	0.3813	4.17%	0.97%	4.28%	4.419
001.99	Loss on Drying, Miscellaneous (%)	20	19	8.635	0.4524	0.4458	0.1082	0.4588	5.16%	1.25%	5.31%	4.240
002.01	Protein, Crude, Auto Kjel-Foss (%)	18	16	16.63	0.2685	0.2558	0.0518	0.2610	1.54%	0.31%	1.57%	5.038
002.05	Protein, Crude, Copper, Boric Acid (%)	29	28	16.67	0.2536	0.2372	0.1221	0.2668	1.42%	0.73%	1.60%	2.186
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	110	101	16.69	0.5229	0.3195	0.1390	0.3484	1.91%	0.83%	2.08%	2.507
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	16	14	3.375	0.1958	0.1994	0.0466	0.2047	5.90%	1.38%	6.06%	4.396
003.06	Fat, Crude, Pet Ether (%)	17	17	3.360	0.3183	0.3138	0.0758	0.3228	9.34%	2.26%	9.61%	4.257
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	10	9	3.407	0.1736	0.1039	0.0474	0.1142	3.09%	1.41%	3.40%	2.410
003.10	Fat, Crude, Randall, Pet Ether (%)	31	27	3.243	0.3629	0.2931	0.0663	0.3005	8.94%	2.02%	9.17%	4.530
003.14	Fat, Crude, Ankom (%)	56	51	3.229	0.3233	0.2216	0.1219	0.2529	6.97%	3.83%	7.95%	2.075
003.99	Fat, Crude, Miscellaneous (%)	6	5	4.092	1.263	0.3998	0.0971	0.4114	11.11%	2.70%	11.43%	4.239
004.00	Fiber, Crude, Asbestos Free (%)	11	9	16.22	1.371	0.5606	0.1095	0.5712	3.54%	0.69%	3.61%	5.216
004.06	Fiber, Crude, Fibertec (%)	15	13	15.69	0.6731	0.5448	0.1181	0.5574	3.49%	0.76%	3.58%	4.718
004.07	Fiber, Crude, ANKOM (%)	77	71	15.83	1.213	0.8208	0.2704	0.8642	5.17%	1.70%	5.44%	3.196
005.00	Ash, 2h @ 600°C (%)	94	88	7.690	0.2398	0.1792	0.0920	0.2014	2.32%	1.19%	2.61%	2.190
005.05	Ash, 3h @ 550°C (%)	30	28	8.025	0.3915	0.2634	0.0611	0.2704	3.30%	0.77%	3.39%	4.423
005.99	Ash, Miscellaneous (%)	8	8	7.898	0.2806	0.2712	0.1019	0.2897	3.43%	1.29%	3.67%	2.843
006.99	Total Sugars, Miscellaneous (%)	6	6	4.025	0.9734	0.9705	0.1053	0.9762	24.11%	2.62%	24.25%	9.273
008.02	Fiber, Acid Detergent, Crucible (%)	15	14	20.81	0.9402	0.9248	0.2400	0.9554	4.44%	1.15%	4.59%	3.981
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	47	44	20.78	1.112	0.9959	0.3548	1.057	4.81%	1.71%	5.11%	2.980
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	15	13	35.90	1.225	1.245	0.3756	1.300	3.46%	1.05%	3.62%	3.461
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	39	35.61	1.401	1.134	0.3938	1.200	3.20%	1.11%	3.38%	3.048
010.99	Moisture, Miscellaneous (%)	18	18	9.106	0.5128	0.4960	0.1844	0.5291	5.45%	2.02%	5.81%	2.870
011.01	Loss on Drying, HT, 135°C 2hr (%)	67	61	9.511	0.6029	0.4658	0.0824	0.4730	4.86%	0.86%	4.93%	5.743
012.00	Starch, Polarimetric (Ewers) (%)	11	11	16.59	0.6167	0.6035	0.1799	0.6297	3.64%	1.08%	3.80%	3.500
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	13	11	13.77	3.498	1.214	0.2545	1.240	8.25%	1.73%	8.43%	4.873
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	9	8	15.14	0.8140	0.6785	0.3012	0.7423	4.53%	2.01%	4.95%	2.465

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
013.00	Fat, Pretreat, Acid hydrolysis (%)	16	14	3.990	0.3664	0.2795	0.1571	0.3207	7.14%	4.01%	8.19%	2.041
013.02	Fat, Pretreat, Mojonier, Bak Ext, Acid hydrolysis (%)	14	12	4.441	0.5358	0.3917	0.0564	0.3957	8.61%	1.24%	8.69%	7.014
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	7	7	3.970	0.6996	0.6906	0.1581	0.7085	17.39%	3.98%	17.84%	4.480
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	9	9	4.085	0.6493	0.6426	0.1313	0.6559	15.73%	3.21%	16.06%	4.995
015.43	Aluminum, ICP, Microwave (ppm)	8	6	150.7	27.71	16.50	2.346	16.67	10.53%	1.50%	10.64%	7.104
017.41	Boron, ICP, Dry ash (ppm)	5	5	10.49	0.5687	0.5576	0.1584	0.5796	5.32%	1.51%	5.53%	3.660
017.43	Boron, ICP, Microwave (ppm)	6	6	9.508	0.6371	0.6212	0.1999	0.6526	6.53%	2.10%	6.86%	3.265
019.00	Calcium, Ox-Mn04 Vol. (%)	6	6	1.283	0.0639	0.0586	0.0361	0.0688	4.57%	2.81%	5.37%	1.907
019.08	Calcium, EDTA (%)	12	11	1.276	0.0322	0.0314	0.0097	0.0329	2.46%	0.76%	2.58%	3.398
019.31	Calcium, AAS, Dry ash (%)	19	18	1.249	0.1301	0.0902	0.0241	0.0934	7.35%	1.97%	7.61%	3.870
019.41	Calcium, ICP, Dry ash (%)	22	22	1.272	0.0835	0.0818	0.0236	0.0852	6.44%	1.85%	6.70%	3.612
019.42	Calcium, ICP, Open vessel (%)	19	18	1.288	0.0724	0.0672	0.0383	0.0773	5.21%	2.98%	6.00%	2.017
019.43	Calcium, ICP, Microwave (%)	30	28	1.266	0.0729	0.0491	0.0224	0.0540	3.91%	1.79%	4.30%	2.404
019.99	Calcium, Miscellaneous (%)	6	6	1.187	0.0783	0.0771	0.0190	0.0794	6.50%	1.60%	6.69%	4.183
021.41	Cobalt, ICP, Dry ash (ppm)	6	5	3.253	1.948	0.4519	0.0859	0.4600	18.26%	3.47%	18.59%	5.358
021.43	Cobalt, ICP, Microwave (ppm)	13	11	2.497	0.3324	0.2947	0.0788	0.3051	12.04%	3.22%	12.46%	3.872
022.31	Copper, AAS, Dry ash (ppm)	13	12	46.92	7.285	6.778	1.436	6.928	14.72%	3.12%	15.05%	4.824
022.41	Copper, ICP, Dry ash (ppm)	17	16	48.50	4.257	2.968	1.797	3.469	6.03%	3.65%	7.05%	1.931
022.42	Copper, ICP, Open vessel (ppm)	21	20	51.87	4.878	3.491	1.824	3.939	6.82%	3.57%	7.70%	2.160
022.43	Copper, ICP, Microwave (ppm)	29	26	49.39	3.846	2.509	1.696	3.028	5.01%	3.38%	6.04%	1.786
025.31	Iron, AAS, Dry ash (ppm)	13	13	338.7	41.48	39.91	15.96	42.99	11.78%	4.71%	12.69%	2.693
025.41	Iron, ICP, Dry ash (ppm)	18	17	329.4	26.08	20.76	7.033	21.92	6.23%	2.11%	6.58%	3.117
025.42	Iron, ICP, Open vessel (ppm)	19	17	341.8	78.59	30.82	16.25	34.84	9.44%	4.98%	10.68%	2.143
025.43	Iron, ICP, Microwave (ppm)	27	25	342.3	20.25	19.99	7.099	21.21	5.85%	2.08%	6.20%	2.988
027.31	Magnesium, AAS, Dry ash (%)	10	8	0.3495	0.0231	0.0107	0.0019	0.0109	3.09%	0.55%	3.14%	5.716
027.41	Magnesium, ICP, Dry ash (%)	18	18	0.3531	0.0173	0.0167	0.0064	0.0179	4.73%	1.82%	5.07%	2.779
027.42	Magnesium, ICP, Open vessel (%)	20	19	0.3548	0.0386	0.0211	0.0095	0.0231	5.82%	2.63%	6.39%	2.431
027.43	Magnesium, ICP, Microwave (%)	27	25	0.3520	0.0160	0.0147	0.0046	0.0155	4.20%	1.32%	4.40%	3.345
027.99	Magnesium, Miscellaneous (%)	6	6	0.3778	0.0566	0.0565	0.0050	0.0567	14.95%	1.33%	15.01%	11.32
028.31	Manganese, AAS, Dry ash (ppm)	10	8	182.4	20.27	13.18	2.780	13.47	7.03%	1.48%	7.18%	4.845
028.41	Manganese, ICP, Dry ash (ppm)	16	14	185.8	21.08	12.87	3.248	13.28	6.74%	1.70%	6.95%	4.088
028.42	Manganese, ICP, Open vessel (ppm)	21	19	195.8	18.04	10.67	7.984	13.33	5.40%	4.04%	6.74%	1.669
028.43	Manganese, ICP, Microwave (ppm)	28	27	187.7	9.824	9.186	4.638	10.29	4.90%	2.48%	5.49%	2.219
031.01	Phosphorus, Photometric (%)	35	33	0.7693	0.0338	0.0288	0.0098	0.0304	3.75%	1.28%	3.96%	3.090
031.41	Phosphorus, ICP, Dry ash (%)	21	19	0.7887	0.0488	0.0341	0.0144	0.0370	4.36%	1.84%	4.73%	2.568
031.42	Phosphorus, ICP, Open vessel (%)	19	18	0.7885	0.0384	0.0379	0.0086	0.0389	4.81%	1.10%	4.94%	4.504
031.43	Phosphorus, ICP, Microwave (%)	27	25	0.7851	0.0257	0.0198	0.0150	0.0248	2.54%	1.91%	3.17%	1.661
031.99	Phosphorus, Miscellaneous (%)	5	5	0.7390	0.0441	0.0430	0.0138	0.0451	5.82%	1.87%	6.11%	3.275

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
032.31	Potassium, AAS, Dry ash (%)	10	8	1.131	0.0820	0.0865	0.0052	0.0867	7.68%	0.46%	7.69%	16.80
032.41	Potassium, ICP, Dry ash (%)	19	19	1.142	0.0627	0.0595	0.0276	0.0656	5.22%	2.41%	5.75%	2.380
032.42	Potassium, ICP, Open vessel (%)	18	15	1.167	0.1046	0.0601	0.0134	0.0616	5.07%	1.13%	5.19%	4.604
032.43	Potassium, ICP, Microwave (%)	28	28	1.167	0.0424	0.0405	0.0175	0.0441	3.47%	1.50%	3.78%	2.518
032.99	Potassium, Miscellaneous (%)	6	5	1.154	0.0442	0.0486	0.0099	0.0496	4.21%	0.86%	4.30%	5.003
033.00	Salt as chloride, Sol Cl (%)	16	13	1.028	0.1426	0.0967	0.0104	0.0973	9.21%	0.99%	9.27%	9.368
033.01	Salt as chloride, Poten Cl (%)	30	26	1.115	0.0330	0.0204	0.0118	0.0235	1.83%	1.06%	2.11%	1.999
033.99	Salt, Miscellaneous (%)	13	10	1.041	0.1267	0.0616	0.0236	0.0659	5.73%	2.20%	6.14%	2.791
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	8	7	2.688	0.4543	0.1809	0.0762	0.1963	6.38%	2.68%	6.92%	2.577
035.31	Sodium, AAS, Dry ash (%)	11	10	0.4008	0.0337	0.0332	0.0086	0.0343	8.27%	2.15%	8.55%	3.972
035.41	Sodium, ICP, Dry ash (%)	21	19	0.4203	0.0226	0.0162	0.0099	0.0190	3.84%	2.36%	4.51%	1.913
035.42	Sodium, ICP, Open vessel (%)	17	15	0.4331	0.0212	0.0208	0.0085	0.0225	4.79%	1.96%	5.18%	2.642
035.43	Sodium, ICP, Microwave (%)	26	25	0.4249	0.0227	0.0183	0.0086	0.0203	4.34%	2.04%	4.80%	2.354
035.99	Sodium, Miscellaneous (%)	5	5	0.4085	0.0150	0.0111	0.0142	0.0180	2.71%	3.48%	4.41%	1.267
036.04	Sulfur, LECO (%)	7	7	0.3375	0.0154	0.0146	0.0071	0.0162	4.33%	2.09%	4.81%	2.299
036.42	Sulfur, ICP, Open vessel (%)	17	16	0.3468	0.0141	0.0124	0.0098	0.0158	3.58%	2.82%	4.56%	1.615
036.43	Sulfur, ICP, Microwave (%)	20	19	0.3588	0.0235	0.0228	0.0071	0.0239	6.37%	2.00%	6.68%	3.340
037.31	Zinc, AAS, Dry ash (ppm)	12	10	349.4	32.89	21.79	2.366	21.91	6.08%	0.66%	6.12%	9.263
037.41	Zinc, ICP, Dry ash (ppm)	17	15	362.5	21.31	21.69	5.353	22.34	5.99%	1.48%	6.17%	4.173
037.42	Zinc, ICP, Open vessel (ppm)	20	18	362.6	22.87	22.13	10.35	24.43	6.09%	2.85%	6.72%	2.361
037.43	Zinc, ICP, Microwave (ppm)	29	28	364.7	21.21	20.54	7.953	22.02	5.62%	2.18%	6.03%	2.769
037.99	Zinc, Miscellaneous (ppm)	6	6	321.7	180.0	179.9	8.829	180.1	55.90%	2.74%	55.97%	20.39
038.42	Molybdenum, ICP, Open vessel (ppm)	5	5	2.342	0.4158	0.3793	0.2410	0.4494	16.19%	10.29%	19.19%	1.864
038.43	Molybdenum, ICP, Microwave (ppm)	8	8	2.145	0.2351	0.2252	0.0954	0.2445	10.50%	4.45%	11.40%	2.563
042.00	Chloride, Titrimetric (%)	7	7	0.7104	0.0648	0.0645	0.0086	0.0651	9.08%	1.21%	9.16%	7.550
106.02	Vitamin A, LC (KU / kg)	12	10	25.33	5.374	2.169	1.678	2.742	9.30%	7.20%	11.76%	1.634
109.02	Vitamin E, LC (IU / kg)	9	9	88.27	12.26	12.15	2.304	12.37	13.77%	2.61%	14.01%	5.366
120.00	Alanine, Post-col Ninhydrin Der (%)	17	15	0.7148	0.0140	0.0141	0.0042	0.0147	1.97%	0.59%	2.06%	3.484
120.05	Alanine, Pre-col AQC Der (%)	8	8	0.7182	0.0570	0.0565	0.0105	0.0575	7.87%	1.46%	8.00%	5.468
121.00	Arginine, Post-col Ninhydrin Der (%)	17	15	1.124	0.0303	0.0192	0.0098	0.0216	1.72%	0.88%	1.93%	2.203
121.05	Arginine, Pre-col AQC Der (%)	8	8	1.104	0.0506	0.0498	0.0131	0.0515	4.51%	1.18%	4.66%	3.941
122.00	Aspartic, Post-col Ninhydrin Der (%)	17	16	1.233	0.0330	0.0224	0.0102	0.0246	1.83%	0.83%	2.00%	2.420
122.05	Aspartic, Pre-col AQC Der (%)	8	8	1.236	0.1126	0.1114	0.0225	0.1137	9.02%	1.82%	9.20%	5.049
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	17	16	0.2923	0.0222	0.0123	0.0048	0.0132	4.28%	1.66%	4.59%	2.770
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	7	0.2904	0.0627	0.0670	0.0040	0.0672	22.85%	1.37%	22.90%	16.75
125.00	Glutamic, Post-col Ninhydrin Der (%)	17	16	2.770	0.0581	0.0547	0.0275	0.0612	1.98%	0.99%	2.21%	2.228
125.05	Glutamic, Pre-col AQC Der (%)	8	7	2.800	0.2527	0.2243	0.0330	0.2268	8.16%	1.20%	8.25%	6.872
126.00	Glycine, Post-col Ninhydrin Der (%)	17	15	0.7761	0.0365	0.0167	0.0064	0.0179	2.13%	0.82%	2.29%	2.795

Test Material Code # 202426

Issue Date : 07/31/2024

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
126.05	Glycine, Pre-col AQC Der (%)	8	7	0.7726	0.0323	0.0251	0.0128	0.0282	3.22%	1.64%	3.62%	2.201
127.00	Histidine, Post-col Ninhydrin Der (%)	17	15	0.4051	0.0194	0.0198	0.0042	0.0202	4.88%	1.05%	4.99%	4.773
127.05	Histidine, Pre-col AQC Der (%)	8	7	0.3964	0.0324	0.0139	0.0068	0.0155	3.60%	1.76%	4.01%	2.281
128.00	Isoleucine, Post-col Ninhydrin Der (%)	17	15	0.5027	0.0226	0.0164	0.0073	0.0180	3.24%	1.45%	3.55%	2.452
128.05	Isoleucine, Pre-col AQC Der (%)	8	7	0.5023	0.0372	0.0401	0.0041	0.0403	7.99%	0.82%	8.03%	9.775
129.00	Leucine, Post-col Ninhydrin Der (%)	17	15	1.024	0.0179	0.0173	0.0091	0.0196	1.69%	0.89%	1.91%	2.152
129.05	Leucine, Pre-col AQC Der (%)	8	8	1.026	0.0606	0.0601	0.0115	0.0612	5.85%	1.12%	5.96%	5.304
130.00	L-Lysine, Post-col Ninhydrin Der (%)	17	15	0.6729	0.0350	0.0355	0.0044	0.0358	5.26%	0.65%	5.30%	8.144
130.05	L-Lysine, Pre-col AQC Der (%)	8	8	0.6619	0.0436	0.0424	0.0146	0.0448	6.40%	2.21%	6.77%	3.065
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	17	16	0.2203	0.0178	0.0124	0.0036	0.0129	5.73%	1.66%	5.96%	3.596
131.05	Methionine, PAO Pre-col AQC Der (%)	8	7	0.2401	0.0460	0.0491	0.0045	0.0493	20.28%	1.85%	20.36%	11.01
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	17	16	0.6880	0.0349	0.0213	0.0081	0.0228	3.12%	1.19%	3.34%	2.808
132.05	Phenylalanine, Pre-col AQC Der (%)	8	7	0.6911	0.0299	0.0259	0.0112	0.0282	3.72%	1.60%	4.05%	2.532
133.00	Proline, Post-col Ninhydrin Der (%)	17	14	0.8665	0.0541	0.0413	0.0105	0.0426	4.80%	1.23%	4.95%	4.043
133.05	Proline, Pre-col AQC Der (%)	8	7	0.8752	0.0326	0.0275	0.0092	0.0290	3.16%	1.06%	3.34%	3.146
134.00	Serine, Post-col Ninhydrin Der (%)	17	15	0.7136	0.0178	0.0175	0.0066	0.0187	2.44%	0.92%	2.61%	2.829
134.05	Serine, Pre-col AQC Der (%)	7	7	0.7212	0.0652	0.0635	0.0208	0.0668	8.80%	2.88%	9.26%	3.210
135.00	Threonine, Post-col Ninhydrin Der (%)	17	15	0.5126	0.0125	0.0125	0.0044	0.0133	2.45%	0.85%	2.59%	3.032
135.05	Threonine, Pre-col AQC Der (%)	8	8	0.5196	0.0242	0.0229	0.0111	0.0255	4.41%	2.14%	4.91%	2.288
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	6	6	0.2242	0.0349	0.0348	0.0039	0.0350	15.53%	1.73%	15.63%	9.020
136.03	Tryptophan, Alka-Hydrol + IS RP LC Fl (%)	7	6	0.2090	0.0144	0.0142	0.0014	0.0143	6.71%	0.67%	6.74%	10.03
137.00	Tyrosine, Post-col Ninhydrin Der (%)	14	12	0.4477	0.0586	0.0568	0.0026	0.0569	12.87%	0.59%	12.88%	21.71
137.05	Tyrosine, Pre-col AQC Der (%)	8	8	0.4548	0.0389	0.0361	0.0205	0.0415	7.93%	4.52%	9.12%	2.020
138.00	Valine, Post-col Ninhydrin Der (%)	17	16	0.6857	0.0330	0.0322	0.0101	0.0337	4.69%	1.47%	4.92%	3.351
138.05	Valine, Pre-col AQC Der (%)	7	7	0.6849	0.0412	0.0397	0.0153	0.0426	5.80%	2.23%	6.21%	2.784
400.01	Water Activity, Aqualab chilled mirror (Units)	13	10	0.5358	0.0236	0.0086	0.0013	0.0087	1.63%	0.25%	1.65%	6.665
520.43	Chromium, Total (Cr), ICP, Microwave (ppm)	8	7	3.952	0.7648	0.7647	0.0162	0.7649	19.35%	0.41%	19.35%	47.21

Notes: Precision Calculations provided for methods with 5 or more labs contributing to calculations.