



AAFCO
Association of American Feed Control Officials



Animal Feed Scheme
Goat Feed, Medicated
Test Material Code # 202324

Method Summary Report
(Precision Report Follows)

Labs Reporting: 169
Methods Reported: 384
Issue Date : 05/31/2023

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 (Rob R-bar)	Thompson Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	1	1	0.8500							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	44	42	8.366	0.3143	8.365	0.2158	0.0416	2.58%	0.0896	
001.99	Loss on Drying, Miscellaneous (%)	17	16	7.828	0.7997	7.881	0.7727	0.2415	9.81%	0.0915	
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	5	7.973	0.6822	7.973	0.6822	0.3051	8.56%	0.1452	
001.03	Loss on Drying, Low temp. methods (%)	2	2	8.563	0.4278						
001.05	Loss on Drying, LECO (%)	1	1	8.256							
001.08	Loss on Drying, 102°C 16 hr, in meat (%)	1	1	8.619							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	115	114	16.57	0.3401	16.58	0.2741	0.0321	1.65%	0.1742	
002.05	Protein, Crude, Copper, Boric Acid (%)	26	26	16.40	0.3307	16.38	0.2884	0.0707	1.76%	0.1445	
002.01	Protein, Crude, Auto Kjel-Foss (%)	18	18	16.37	0.2221	16.36	0.2282	0.0672	1.39%	0.0958	
002.00	Protein, Crude, Crude (%)	2	2	16.91	0.3147						
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	1	1	16.41							
002.04	Protein, Crude, Copper Catalyst (%)	1	1	16.31							
002.08	Protein, Crude, Cu/Ti (%)	1	1	16.42							
002.11	Protein, Crude, NIR (%)	1	1	17.57							
003.14	Fat, Crude, Ankom (%)	54	53	3.264	0.3516	3.276	0.2542	0.0436	7.76%	0.1071	
003.10	Fat, Crude, Randall, Pet Ether (%)	28	27	3.203	0.1934	3.182	0.1472	0.0354	4.62%	0.0659	
003.06	Fat, Crude, Pet Ether (%)	16	15	3.309	0.2485	3.309	0.2818	0.0909	8.52%	0.0635	
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	10	10	3.427	0.1128	3.428	0.1258	0.0497	3.67%	0.0872	
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	10	9	3.583	0.3217	3.531	0.2276	0.0948	6.45%	0.1370	
003.13	Fat, Crude, Randall, Hexane Ext. (%)	6	6	4.483	2.848	3.405	0.2776	0.1417	8.15%	0.0679	
003.12	Fat, Crude, Hexane Ext (%)	3	3	3.345	0.0229	3.345	0.0229	0.0132	0.68%	0.0450	
003.99	Fat, Crude, Miscellaneous (%)	3	3	3.723	0.5915	3.723	0.5915	0.3415	15.89%	0.1533	
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	2	2	3.340	0.3818						
003.11	Fat, Crude, NIR (%)	1	1	4.190							
004.07	Fiber, Crude, ANKOM (%)	72	71	14.51	2.195	14.61	0.9890	0.1467	6.77%	0.2561	
004.06	Fiber, Crude, Fibertec (%)	15	14	14.01	0.8669	14.06	0.8711	0.2910	6.20%	0.2691	
004.00	Fiber, Crude, Asbestos Free (%)	8	8	14.73	1.993	14.38	1.357	0.5998	9.44%	0.4098	
004.03	Fiber, Crude, Fritted Glass (%)	5	5	14.54	1.206	14.54	1.206	0.5391	8.29%	0.8200	

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004.11	Fiber, Crude, NIR (%)	1	1	14.65							
004.99	Fiber, Crude, Miscellaneous (%)	1	1	12.81							
005.00	Ash, 2h @ 600°C (%)	89	89	10.73	0.4986	10.77	0.4244	0.0562	3.94%	0.1509	
005.05	Ash, 3h @ 550°C (%)	24	24	11.07	0.5500	11.15	0.3946	0.1007	3.54%	0.0938	
005.99	Ash, Miscellaneous (%)	9	9	10.98	0.6089	11.04	0.5498	0.2291	4.98%	0.1478	
005.11	Ash, NIR (%)	2	2	9.473	3.009						
005.02	Ash, LECO (%)	1	1	11.53							
005.03	Ash, Microwave furnace (%)	1	1	10.05							
006.99	Total Sugars, Miscellaneous (%)	6	6	3.976	1.047	3.976	1.187	0.6057	29.85%	0.1838	
006.00	Total Sugars, As sucrose (%)	4	4	4.004	0.4693	4.004	0.4693	0.2347	11.72%	0.2218	
006.01	Total Sugars, Mod. Fehling Soln (%)	1	1	5.170							
006.03	Total Sugars, Invert w/o Invrns (%)	1	1	4.150							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	43	41	19.54	1.660	19.47	1.480	0.2888	7.60%	0.2289	
008.02	Fiber, Acid Detergent, Crucible (%)	10	10	19.91	0.9260	19.92	1.026	0.4056	5.15%	0.3116	
008.99	Fiber, Acid Detergent, Miscellaneous (%)	2	2	18.60	0.2181						
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	40	38	35.76	1.259	35.74	1.078	0.2185	3.02%	0.4164	
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	11	37.19	1.901	37.27	1.978	0.7456	5.31%	0.5084	
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	1	1	34.21							
010.99	Moisture, Miscellaneous (%)	16	15	8.205	0.5859	8.265	0.4659	0.1504	5.64%	0.0569	
010.03	Moisture, Karl-Fischer (%)	2	2	8.738	0.3500						
010.11	Moisture, NIR (%)	1	1	8.975							
011.01	Loss on Drying, HT, 135°C 2hr (%)	66	65	9.114	0.4964	9.151	0.3317	0.0514	3.63%	0.0937	
011.99	Loss on Drying, HT, High Temp. Methods Miscellaneous (%)	3	3	8.828	0.2032	8.828	0.2032	0.1173	2.30%	0.1463	
011.02	Loss on Drying, HT, 130°C for 2 hours (%)	2	2	9.108	0.1520						
012.00	Starch, Polarimetric (Ewers) (%)	15	15	15.93	0.8900	16.07	0.5897	0.1903	3.67%	0.2099	
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	11	14.93	1.046	14.71	0.5308	0.2001	3.61%	0.4743	
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	6	6	14.87	0.5202	14.87	0.5899	0.3010	3.97%	0.3762	
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	2	2	13.35	0.8440						
012.11	Starch, NIR (%)	1	1	16.97							
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	15.72							
012.99	Starch, Miscellaneous (%)	1	1	16.10							
013.00	Fat, Pretreat, Acid hydrolysis (%)	17	17	3.955	0.5194	3.971	0.5521	0.1674	13.91%	0.1603	
013.02	Fat, Pretreat, Mojonier, Bak Ext, Acid hydrolysis (%)	12	12	4.358	0.6463	4.358	0.7329	0.2645	16.82%	0.0780	
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	9	9	4.494	0.7473	4.494	0.8475	0.3531	18.86%	0.0940	
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	6	6	3.909	0.2533	3.941	0.2081	0.1062	5.28%	0.1061	
013.08	Fat, Pretreat, Roese-Gottlieb Modified, Alkaline Hydrolysis (%)	1	1	1.655							
015.43	Aluminum, ICP, Microwave (ppm)	5	5	127.6	27.60	127.6	27.60	12.34	21.63%	3.142	
015.41	Aluminum, ICP, Dry ash (ppm)	4	4	92.32	47.77	92.32	47.77	23.88	51.74%	2.911	
015.42	Aluminum, ICP, Open vessel (ppm)	3	3	48.78	13.60	48.78	13.60	7.850	27.88%	2.343	
015.53	Aluminum, ICP-MS, Microwave (ppm)	2	2	128.3	1.802						

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015.99	Aluminum, Miscellaneous (ppm)	1	1	64.10							
017.41	Boron, ICP, Dry ash (ppm)	5	5	5.845	0.8201	5.845	0.8201	0.3668	14.03%	0.5287	
017.42	Boron, ICP, Open vessel (ppm)	5	5	5.666	0.4406	5.666	0.4406	0.1970	7.78%	0.2744	
017.43	Boron, ICP, Microwave (ppm)	4	3	6.207	0.3840	6.207	0.3840	0.2217	6.19%	0.1084	
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	5.693							
019.43	Calcium, ICP, Microwave (%)	24	23	2.297	0.2355	2.307	0.1061	0.0277	4.60%	0.0388	
019.41	Calcium, ICP, Dry ash (%)	21	21	2.280	0.1146	2.282	0.1197	0.0327	5.25%	0.0346	
019.31	Calcium, AAS, Dry ash (%)	19	19	2.232	0.0967	2.245	0.0602	0.0173	2.68%	0.0752	
019.42	Calcium, ICP, Open vessel (%)	18	17	2.340	0.1807	2.328	0.1713	0.0519	7.36%	0.0591	
019.08	Calcium, EDTA (%)	12	12	2.309	0.1101	2.297	0.0936	0.0338	4.07%	0.0305	
019.00	Calcium, Ox-Mn04 Vol. (%)	6	6	2.263	0.0816	2.263	0.0926	0.0472	4.09%	0.0679	
019.99	Calcium, Miscellaneous (%)	6	6	2.188	0.0698	2.188	0.0791	0.0404	3.62%	0.0550	
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	2.258	0.1190	2.258	0.1190	0.0687	5.27%	0.0556	
019.44	Calcium, ICP, Dry ash (%)	2	2	2.205	0.0707						
019.53	Calcium, ICP-MS, Microwave (%)	2	2	2.420	0.0855						
019.09	Calcium, Ion-selective electrode (%)	1	1	2.161							
019.32	Calcium, AAS, Open vessel (%)	1	1	2.325							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	2.360							
021.41	Cobalt, ICP, Dry ash (ppm)	5	5	1.432	0.4808	1.432	0.4808	0.2150	33.56%	0.0233	
021.43	Cobalt, ICP, Microwave (ppm)	5	5	1.724	0.7475	1.724	0.7475	0.3343	43.35%	0.0740	
021.52	Cobalt, ICP-MS, Open vessel (ppm)	3	3	0.8508	0.1706	0.8508	0.1706	0.0985	20.06%	0.0771	
021.53	Cobalt, ICP-MS, Microwave (ppm)	3	3	1.388	0.0794	1.388	0.0794	0.0458	5.72%	0.0592	
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	1.305	0.0071						
021.31	Cobalt, AAS, Dry ash (ppm)	1	1	1.140							
021.99	Cobalt, Miscellaneous (ppm)	1	1	1.310							
022.43	Copper, ICP, Microwave (ppm)	23	23	25.40	1.111	25.38	1.218	0.3174	4.80%	0.5266	
022.42	Copper, ICP, Open vessel (ppm)	19	19	25.81	2.491	25.82	2.801	0.8033	10.85%	1.380	
022.41	Copper, ICP, Dry ash (ppm)	18	18	18.16	4.902	18.61	3.766	1.110	20.23%	1.103	
022.31	Copper, AAS, Dry ash (ppm)	12	12	19.31	5.865	19.47	3.366	1.215	17.29%	0.9137	
022.99	Copper, Miscellaneous (ppm)	4	4	23.03	5.491	23.03	5.491	2.745	23.85%	0.8000	
022.33	Copper, AAS, Microwave (ppm)	2	2	22.89	4.893						
022.44	Copper, ICP, Dry ash (ppm)	2	2	22.86	1.213						
022.52	Copper, ICP-MS, Open vessel (ppm)	2	2	26.08	3.921						
022.53	Copper, ICP-MS, Microwave (ppm)	2	2	23.42	0.8183						
022.32	Copper, AAS, Open vessel (ppm)	1	1	16.70							
025.43	Iron, ICP, Microwave (ppm)	19	19	301.5	34.51	305.3	24.97	7.162	8.18%	6.642	
025.41	Iron, ICP, Dry ash (ppm)	19	18	277.1	57.82	288.9	23.93	7.049	8.28%	3.588	
025.42	Iron, ICP, Open vessel (ppm)	18	18	277.9	44.27	280.8	42.56	12.54	15.16%	9.889	
025.31	Iron, AAS, Dry ash (ppm)	12	12	262.4	91.54	282.6	45.11	16.28	15.96%	8.778	
025.99	Iron, Miscellaneous (ppm)	3	3	299.2	10.02	299.2	10.02	5.783	3.35%	5.667	

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025.53	Iron, ICP-MS, Microwave (ppm)	2	2	292.7	0.4041						
025.33	Iron, AAS, Microwave (ppm)	1	1	278.5							
025.52	Iron, ICP-MS, Open vessel (ppm)	1	1	297.4							
027.43	Magnesium, ICP, Microwave (%)	21	21	0.3367	0.0232	0.3351	0.0220	0.0060	6.56%	0.0121	
027.42	Magnesium, ICP, Open vessel (%)	19	19	0.3442	0.0212	0.3435	0.0211	0.0061	6.16%	0.0112	
027.41	Magnesium, ICP, Dry ash (%)	17	16	0.3248	0.0145	0.3252	0.0145	0.0045	4.46%	0.0074	
027.31	Magnesium, AAS, Dry ash (%)	8	7	0.3360	0.0143	0.3354	0.0147	0.0069	4.38%	0.0062	
027.99	Magnesium, Miscellaneous (%)	5	4	0.3363	0.0085	0.3363	0.0085	0.0043	2.54%	0.0100	
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.3091	0.0164	0.3091	0.0164	0.0095	5.30%	0.0083	
027.53	Magnesium, ICP-MS, Microwave (%)	2	2	0.3386	0.0121						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.3250							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.3820							
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.3305							
028.43	Manganese, ICP, Microwave (ppm)	21	21	147.8	9.363	147.7	10.45	2.850	7.08%	3.047	
028.42	Manganese, ICP, Open vessel (ppm)	19	19	149.1	13.35	149.1	15.14	4.342	10.16%	5.280	
028.41	Manganese, ICP, Dry ash (ppm)	17	16	125.1	28.32	131.7	10.20	3.189	7.75%	2.344	
028.31	Manganese, AAS, Dry ash (ppm)	12	12	136.4	9.467	136.2	9.673	3.490	7.10%	4.949	
028.99	Manganese, Miscellaneous (ppm)	4	4	143.6	9.286	143.6	9.286	4.643	6.47%	5.750	
028.53	Manganese, ICP-MS, Microwave (ppm)	3	3	148.4	6.502	148.4	6.502	3.754	4.38%	11.15	
028.44	Manganese, ICP, Dry ash (ppm)	2	2	122.5	14.19						
028.52	Manganese, ICP-MS, Open vessel (ppm)	2	2	168.1	37.58						
028.32	Manganese, AAS, Open vessel (ppm)	1	1	155.5							
028.33	Manganese, AAS, Microwave (ppm)	1	1	144.1							
030.01	Nitrate, Ion-selective electrode (%)	1	1	0.0038							
031.01	Phosphorus, Photometric (%)	34	33	0.6747	0.0663	0.6720	0.0246	0.0054	3.67%	0.0118	
031.43	Phosphorus, ICP, Microwave (%)	24	24	0.6796	0.0340	0.6765	0.0306	0.0078	4.53%	0.0155	
031.42	Phosphorus, ICP, Open vessel (%)	20	20	0.6869	0.0342	0.6847	0.0310	0.0087	4.53%	0.0234	
031.41	Phosphorus, ICP, Dry ash (%)	19	19	0.6775	0.0316	0.6806	0.0229	0.0066	3.37%	0.0156	
031.99	Phosphorus, Miscellaneous (%)	5	5	0.6440	0.0988	0.6440	0.0988	0.0442	15.35%	0.0200	
031.44	Phosphorus, ICP, Dry ash (%)	4	3	0.6837	0.0164	0.6837	0.0164	0.0116	2.40%	0.0049	
031.03	Phosphorus, Autoanalyzer (%)	2	2	0.6755	0.0064						
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.6790	0.0292						
031.53	Phosphorus, ICP-MS, Microwave (%)	2	2	0.7049	0.0211						
031.06	Phosphorus, Hach Method (%)	1	1	0.9400							
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	0.6500							
032.43	Potassium, ICP, Microwave (%)	23	23	0.9904	0.0558	0.9800	0.0351	0.0091	3.58%	0.0225	
032.42	Potassium, ICP, Open vessel (%)	19	18	1.007	0.0782	0.9996	0.0680	0.0200	6.80%	0.0272	
032.41	Potassium, ICP, Dry ash (%)	18	16	0.9166	0.0551	0.9169	0.0618	0.0193	6.75%	0.0190	
032.31	Potassium, AAS, Dry ash (%)	6	6	0.8819	0.0760	0.8819	0.0862	0.0440	9.77%	0.0173	
032.99	Potassium, Miscellaneous (%)	5	5	0.9658	0.0274	0.9658	0.0274	0.0123	2.84%	0.0117	

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032.52	Potassium, ICP-MS, Open vessel (%)	3	3	0.8964	0.0495	0.8964	0.0495	0.0286	5.52%	0.0133	
032.53	Potassium, ICP-MS, Microwave (%)	2	2	1.004	0.0271						
032.08	Potassium, Ion-selective electrode (%)	1	1	0.7150							
032.32	Potassium, AAS, Open vessel (%)	1	1	1.000							
032.44	Potassium, ICP, Dry ash (%)	1	1	0.9480							
033.01	Salt as chloride, Poten Cl (%)	28	27	1.230	0.0411	1.236	0.0257	0.0062	2.08%	0.0167	
033.00	Salt as chloride, Sol Cl (%)	15	15	1.074	0.2315	1.079	0.2521	0.0814	23.36%	0.0308	
033.99	Salt, Miscellaneous (%)	7	7	1.095	0.2532	1.095	0.2871	0.1357	26.22%	0.0491	
033.03	Salt as chloride, Quantab (%)	4	3	1.027	0.3101	1.027	0.3101			0.0000	
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	1.109	0.0922	1.109	0.0922	0.0532	8.31%	0.0100	
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	4	4	0.6021	0.0926	0.6021	0.0926	0.0463	15.38%	0.0342	
034.52	Selenium, Total (Se), ICP-MS, Open vessel (ppm)	3	3	0.5173	0.1791	0.5173	0.1791	0.1034	34.62%	0.0889	
034.04	Selenium, Total (Se), AA, Hydride (ppm)	2	2	0.5090	0.1428						
034.41	Selenium, Total (Se), ICP, Dry ash (ppm)	2	2	0.5025	0.0240						
034.43	Selenium, Total (Se), ICP, Microwave (ppm)	3	2	0.5892	0.0265	0.5892	0.0265			0.0315	
034.01	Selenium, Total (Se), Fluor (ppm)	1	1	0.6115							
034.42	Selenium, Total (Se), ICP, Open vessel (ppm)	1	1	1.150							
034.99	Selenium, Total (Se), Miscellaneous (ppm)	1	1	1.060							
035.41	Sodium, ICP, Dry ash (%)	21	20	0.2978	0.0229	0.2980	0.0243	0.0068	8.14%	0.0076	
035.43	Sodium, ICP, Microwave (%)	20	19	0.3056	0.0139	0.3056	0.0157	0.0045	5.15%	0.0113	
035.42	Sodium, ICP, Open vessel (%)	18	17	0.3040	0.0138	0.3034	0.0141	0.0043	4.65%	0.0102	
035.31	Sodium, AAS, Dry ash (%)	10	10	0.2755	0.0257	0.2756	0.0290	0.0115	10.53%	0.0089	
035.99	Sodium, Miscellaneous (%)	4	3	0.3033	0.0029	0.3033	0.0029	0.0017	0.95%	0.0100	
035.05	Sodium, Flame Emission (%)	2	2	0.3040	0.0014						
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.3009	0.0114						
035.53	Sodium, ICP-MS, Microwave (%)	2	2	0.3010	0.0226						
035.01	Sodium, Ion-selective electrode (%)	1	1	0.3440							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.3250							
036.42	Sulfur, ICP, Open vessel (%)	20	19	0.3200	0.0200	0.3196	0.0217	0.0062	6.80%	0.0116	
036.43	Sulfur, ICP, Microwave (%)	14	14	0.3338	0.0141	0.3353	0.0102	0.0034	3.05%	0.0087	
036.04	Sulfur, LECO (%)	5	4	0.3253	0.0109	0.3253	0.0109	0.0055	3.36%	0.0090	
036.99	Sulfur, Miscellaneous (%)	3	3	0.3083	0.0454	0.3083	0.0454	0.0262	14.71%	0.0167	
036.00	Sulfur, Gravimetric (%)	1	1	0.3315							
036.52	Sulfur, ICP-MS, Open vessel (%)	1	1	0.2937							
037.43	Zinc, ICP, Microwave (ppm)	24	23	127.3	8.156	127.7	8.102	2.112	6.34%	3.086	
037.42	Zinc, ICP, Open vessel (ppm)	19	18	127.6	11.78	127.8	12.89	3.798	10.08%	5.294	
037.41	Zinc, ICP, Dry ash (ppm)	17	17	108.7	26.05	114.3	12.48	3.782	10.92%	5.049	
037.31	Zinc, AAS, Dry ash (ppm)	11	11	114.4	13.61	114.4	15.26	5.752	13.34%	4.153	
037.99	Zinc, Miscellaneous (ppm)	5	5	122.3	10.94	122.3	10.94	4.894	8.95%	5.328	
037.44	Zinc, ICP, Dry ash (ppm)	3	3	105.5	12.98	105.5	12.98	7.492	12.30%	3.670	

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037.33	Zinc, AAS, Microwave (ppm)	2	2	125.6	6.226						
037.52	Zinc, ICP-MS, Open vessel (ppm)	2	2	163.9	59.91						
037.53	Zinc, ICP-MS, Microwave (ppm)	2	2	128.1	10.75						
037.32	Zinc, AAS, Open vessel (ppm)	1	1	134.5							
037.34	Zinc, AAS, Dry ash (ppm)	1	1	108.6							
038.43	Molybdenum, ICP, Microwave (ppm)	6	6	1.426	0.6316	1.482	0.5518	0.2816	37.24%	0.1943	
038.41	Molybdenum, ICP, Dry ash (ppm)	3	3	1.691	0.1940	1.691	0.1940	0.1120	11.47%	0.0777	
038.42	Molybdenum, ICP, Open vessel (ppm)	4	3	1.448	0.2587	1.448	0.2587	0.1493	17.86%	0.1433	
038.53	Molybdenum, ICP-MS, Microwave (ppm)	3	3	1.700	0.1346	1.700	0.1346	0.0777	7.92%	0.1141	
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	2	2	0.9689	0.0267						
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	16.02							
041.53	Vanadium, ICP-MS, Microwave (ppm)	1	1	0.5485							
042.00	Chloride, Titrimetric (%)	6	6	0.7869	0.0989	0.7869	0.1122	0.0572	14.25%	0.0173	
042.01	Chloride, Ion-selective electrode (%)	1	1	0.6470							
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	1,320							
102.01	Niacin, Microbiological (ppm)	1	1	83.40							
102.02	Niacin, LC (ppm)	1	1	25.00							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	12.55							
104.03	Riboflavin, LC (ppm)	2	2	1.600	0.3536						
104.00	Riboflavin, Fluorometric (ppm)	1	1	2.600							
105.00	Thiamine, LC (ppm)	1	1	2.430							
105.01	Thiamine, Fluorometer (ppm)	1	1	5.445							
106.02	Vitamin A, LC (KU / kg)	8	8	8.391	1.667	8.235	1.511	0.6676	18.34%	1.537	
106.00	Vitamin A, Color (KU / kg)	1	1	6.805							
106.01	Vitamin A, UV (KU / kg)	1	1	6.510							
107.00	Vitamin B12, Microbiological (ppb)	1	1	6.775							
108.02	Vitamin D3, LC (KU / kg)	7	5	2.478	0.5940	2.478	0.5940	0.3320	23.97%	0.2280	
108.99	Vitamin D3, Miscellaneous (KU / kg)	1	1	2.325							
109.02	Vitamin E, LC (IU / kg)	12	12	59.08	31.03	52.89	15.62	5.636	29.53%	2.663	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	33.50							
111.00	Vitamin C, Phosphorylated, LC (ppm)	1		4.400							
112.01	Pyridoxine, LC (µg / g)	2	2	3.853	0.8521						
113.01	Folic Acid, Micro (ppm)	1	1	1.170							
113.02	Folic acid, LC (ppm)	1		0.2000							
114.99	Biotin, Miscellaneous (ppm)	1	1	0.2210							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	2	2	0.6900	0.7920						
120.00	Alanine, Post-col Ninhydrin Der (%)	20	20	0.7491	0.0668	0.7587	0.0244	0.0068	3.21%	0.0111	
120.05	Alanine, Pre-col AQC Der (%)	11	11	0.7369	0.0464	0.7368	0.0526	0.0198	7.14%	0.0150	
120.99	Alanine, Miscellaneous (%)	4	4	0.7575	0.0340	0.7575	0.0340			0.0000	
120.02	Alanine, Post-col OPA Der (%)	1	1	0.7670							

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121.00	Arginine, Post-col Ninhydrin Der (%)	20	20	1.046	0.1205	1.066	0.0623	0.0174	5.84%	0.0216	
121.05	Arginine, Pre-col AQC Der (%)	11	11	1.107	0.0812	1.107	0.0920	0.0347	8.31%	0.0449	
121.99	Arginine, Miscellaneous (%)	4	3	1.075	0.0328	1.075	0.0328	0.0232	3.05%	0.0100	
121.02	Arginine, Post-col OPA Der (%)	1	1	1.041							
122.00	Aspartic, Post-col Ninhydrin Der (%)	20	20	1.149	0.1057	1.167	0.0379	0.0106	3.25%	0.0198	
122.05	Aspartic, Pre-col AQC Der (%)	11	11	1.149	0.0951	1.144	0.0972	0.0366	8.50%	0.0239	
122.99	Aspartic, Miscellaneous (%)	4	4	1.199	0.0601	1.199	0.0601	0.0300	5.01%	0.0233	
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.188							
124.00	Cysteine/Cystine, PAO Post-col Ninhydry (%)	20	19	0.2828	0.0317	0.2879	0.0167	0.0048	5.80%	0.0043	
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	8	0.2893	0.0405	0.2893	0.0459	0.0203	15.86%	0.0222	
124.99	Cysteine/Cystine, Miscellaneous (%)	5	5	0.2747	0.0098	0.2747	0.0098	0.0044	3.55%	0.0198	
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.3070							
125.00	Glutamic, Post-col Ninhydrin Der (%)	20	19	2.720	0.2719	2.763	0.1289	0.0370	4.66%	0.0220	
125.05	Glutamic, Pre-col AQC Der (%)	11	11	2.835	0.2227	2.826	0.2328	0.0877	8.24%	0.0554	
125.99	Glutamic, Miscellaneous (%)	4	3	2.845	0.0312	2.845	0.0312	0.0180	1.10%	0.0300	
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.825							
126.00	Glycine, Post-col Ninhydrin Der (%)	20	20	0.7373	0.0786	0.7399	0.0254	0.0071	3.43%	0.0125	
126.05	Glycine, Pre-col AQC Der (%)	11	11	0.7647	0.0252	0.7649	0.0204	0.0077	2.66%	0.0387	
126.99	Glycine, Miscellaneous (%)	4	4	0.6700	0.2215	0.6700	0.2215	0.1107	33.06%	0.0100	
126.02	Glycine, Post-col OPA Der (%)	1	1	0.7435							
127.00	Histidine, Post-col Ninhydrin Der (%)	20	20	0.3909	0.0423	0.3971	0.0236	0.0066	5.95%	0.0093	
127.05	Histidine, Pre-col AQC Der (%)	11	11	0.3762	0.0514	0.3771	0.0475	0.0179	12.59%	0.0221	
127.99	Histidine, Miscellaneous (%)	4	4	0.3950	0.0339	0.3950	0.0339	0.0170	8.58%	0.0200	
127.02	Histidine, Post-col OPA Der (%)	1	1	0.3825							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	20	20	0.4836	0.0523	0.4894	0.0364	0.0102	7.43%	0.0109	
128.05	Isoleucine, Pre-col AQC Der (%)	11	11	0.4920	0.0513	0.4935	0.0549	0.0207	11.13%	0.0159	
128.99	Isoleucine, Miscellaneous (%)	4	4	0.5325	0.0644	0.5325	0.0644	0.0322	12.09%	0.0100	
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.4780							
129.00	Leucine, Post-col Ninhydrin Der (%)	20	20	1.058	0.1071	1.085	0.0340	0.0095	3.13%	0.0155	
129.05	Leucine, Pre-col AQC Der (%)	11	10	1.049	0.1153	1.065	0.0861	0.0340	8.08%	0.0114	
129.99	Leucine, Miscellaneous (%)	4	4	1.121	0.1430	1.121	0.1430	0.0715	12.75%	0.0367	
129.02	Leucine, Post-col OPA Der (%)	1	1	1.060							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	22	0.6293	0.0606	0.6388	0.0318	0.0085	4.98%	0.0153	
130.05	L-Lysine, Pre-col AQC Der (%)	10	10	0.6224	0.0718	0.6224	0.0815	0.0322	13.09%	0.0128	
130.99	L-Lysine, Miscellaneous (%)	5	5	0.6471	0.1195	0.6471	0.1195	0.0534	18.46%	0.0255	
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.6645							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	20	20	0.2300	0.0169	0.2296	0.0162	0.0045	7.05%	0.0101	
131.05	Methionine, PAO Pre-col AQC Der (%)	9	9	0.2490	0.0659	0.2440	0.0629	0.0262	25.76%	0.0148	
131.99	Methionine, Miscellaneous (%)	5	5	0.2558	0.0704	0.2558	0.0704	0.0315	27.51%	0.0084	
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2225							

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132.00	Phenylalanine, Post-col Ninhydrin Der (%)	20	19	0.6727	0.0658	0.6834	0.0298	0.0085	4.35%	0.0097	
132.05	Phenylalanine, Pre-col AQC Der (%)	11	11	0.6702	0.0573	0.6764	0.0327	0.0123	4.84%	0.0189	
132.99	Phenylalanine, Miscellaneous (%)	4	4	0.6900	0.0561	0.6900	0.0561	0.0281	8.13%	0.0133	
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.6590							
133.00	Proline, Post-col Ninhydrin Der (%)	20	19	0.8923	0.1144	0.8968	0.0698	0.0200	7.78%	0.0153	
133.05	Proline, Pre-col AQC Der (%)	11	11	0.9079	0.0548	0.9050	0.0553	0.0209	6.11%	0.0204	
133.99	Proline, Miscellaneous (%)	4	4	0.9975	0.0507	0.9975	0.0507	0.0254	5.09%	0.0200	
134.00	Serine, Post-col Ninhydrin Der (%)	20	20	0.6737	0.0638	0.6865	0.0301	0.0084	4.38%	0.0146	
134.05	Serine, Pre-col AQC Der (%)	11	11	0.7179	0.0587	0.7184	0.0656	0.0247	9.14%	0.0344	
134.99	Serine, Miscellaneous (%)	4	4	0.7488	0.0953	0.7488	0.0953	0.0477	12.73%	0.0100	
134.02	Serine, Post-col OPA Der (%)	1	1	0.6190							
135.00	Threonine, Post-col Ninhydrin Der (%)	20	19	0.5039	0.0473	0.5119	0.0204	0.0059	3.99%	0.0081	
135.05	Threonine, Pre-col AQC Der (%)	11	11	0.5282	0.0337	0.5287	0.0372	0.0140	7.03%	0.0158	
135.99	Threonine, Miscellaneous (%)	5	4	0.5575	0.0463	0.5575	0.0463	0.0231	8.30%	0.0100	
135.02	Threonine, Post-col OPA Der (%)	1	1	0.4960							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	8	8	0.2136	0.0097	0.2121	0.0069	0.0030	3.25%	0.0039	
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	6	0.2131	0.0718	0.2169	0.0725	0.0370	33.45%	0.0003	
136.05	Tryptophan, Pre-col AQC Der (%)	4	4	0.1834	0.0548	0.1834	0.0548	0.0274	29.85%	0.0162	
136.99	Tryptophan, Miscellaneous (%)	3	3	0.2420	0.1348	0.2420	0.1348	0.0778	55.70%	0.0066	
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	2	2	0.2180	0.0007						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2060							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	17	17	0.4221	0.0657	0.4247	0.0615	0.0187	14.48%	0.0179	
137.05	Tyrosine, Pre-col AQC Der (%)	11	11	0.4493	0.0614	0.4491	0.0693	0.0261	15.42%	0.0259	
137.99	Tyrosine, Miscellaneous (%)	4	4	0.4406	0.0620	0.4406	0.0620	0.0310	14.07%	0.0117	
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.3805							
138.00	Valine, Post-col Ninhydrin Der (%)	20	20	0.6830	0.0763	0.6950	0.0410	0.0115	5.91%	0.0129	
138.05	Valine, Pre-col AQC Der (%)	11	11	0.6865	0.0413	0.6868	0.0461	0.0174	6.72%	0.0180	
138.99	Valine, Miscellaneous (%)	4	4	0.7131	0.0558	0.7131	0.0558	0.0279	7.82%	0.0117	
138.02	Valine, Post-col OPA Der (%)	1	1	0.7205							
139.00	Taurine, Post-col Ninhydrin Der (%)	3	3	0.0940	0.0746	0.0940	0.0746			0.0000	
139.99	Taurine, Miscellaneous (%)	2	2	0.0175	0.0035						
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
160.99	Fructose, Miscellaneous (%)	3	3	0.1942	0.0944	0.1942	0.0944	0.0545	48.59%	0.0183	
162.99	Glucose, Miscellaneous (%)	2	2	0.1503	0.1057						
163.99	Lactose, Miscellaneous (%)	2		0.0000							
164.99	Maltose, Miscellaneous (%)	1	1	0.3750							
165.99	Sucrose, Miscellaneous (%)	3	3	1.673	0.0957	1.673	0.0957	0.0553	5.72%	0.0600	
166.99	Raffinose, Miscellaneous (%)	1	1	0.7500							
167.99	Stachyose, Miscellaneous (%)	1		0.0500							
351.05	Chlortetracycline, LC-MS/MS (ppm)	2	2	6.163	4.932						

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351.00	Chlortetracycline, Plate (ppm)	1	1	11.42							
351.03	Chlortetracycline, LC (UV or FL) (ppm)	1	1	12.15							
354.01	Decoquinatone, LC (UV or FL) (ppm)	8	8	155.0	10.52	155.8	9.889	4.370	6.35%	3.604	
354.02	Decoquinatone, LC (ppm)	4	4	161.1	4.151	161.1	4.151	2.076	2.58%	2.325	
354.04	Decoquinatone, LC-MS/MS (ppm)	3	3	134.3	26.58	134.3	26.58	15.35	19.79%	6.025	
354.03	Decoquinatone, LC-MS (ppm)	1	1	142.1							
361.05	Lasalocid Sodium, LC-MS/MS (ppm)	1	1	0.3150							
365.03	Monensin, LC-PCD (ppm)	7	7	18.89	1.464	19.14	1.018	0.4809	5.32%	0.7162	
365.05	Monensin, LC-MS/MS (ppm)	7	7	18.48	2.419	18.82	1.899	0.8970	10.09%	1.098	
365.02	Monensin, LC (ppm)	3	3	18.31	0.7191	18.31	0.7191	0.4152	3.93%	0.6100	
365.04	Monensin, LC-MS (ppm)	2	2	19.93	0.5190						
365.00	Monensin, Plate (ppm)	1	1	20.34							
365.99	Monensin, Miscellaneous (ppm)	1	1	19.47							
379.05	Salinomycin, LC-MS/MS (ppm)	1		0.2500							
391.03	Narasin, LC-MS/MS (ppm)	1		0.2500							
400.01	Water Activity, Aqualab chilled mirror (Units)	14	13	0.4732	0.0208	0.4732	0.0236	0.0082	4.98%	0.0088	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.4833	0.0230						
516.53	Arsenic, Total (As), ICP-MS, Microwave (ppm)	3	3	0.1258	0.0063	0.1258	0.0063	0.0037	5.03%	0.0172	
516.00	Arsenic, Total (As), AA, Hydride (ppm)	2	2	0.1038	0.0054						
516.52	Arsenic, Total (As), ICP-MS, Open vessel (ppm)	2	2	0.1133	0.0095						
516.43	Arsenic, Total (As), ICP, Microwave (ppm)	2	1	0.0180							
518.53	Cadmium, ICP-MS, Microwave (ppm)	4	4	0.1022	0.0092	0.1022	0.0092	0.0046	9.03%	0.0063	
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.0871	0.0049						
518.52	Cadmium, ICP-MS, Open vessel (ppm)	2	2	0.0919	0.0026						
518.34	Cadmium, AAS, Graphite furnace (ppm)	1	1	0.0969							
518.43	Cadmium, ICP, Microwave (ppm)	2	1	0.1027							
518.99	Cadmium, Miscellaneous (ppm)	1	1	0.1040							
520.53	Chromium, Total (Cr), ICP-MS, Microwave (ppm)	4	4	7.988	2.758	7.988	2.758	1.379	34.52%	0.4716	
520.43	Chromium, Total (Cr), ICP, Microwave (ppm)	3	3	9.264	1.112	9.264	1.112	0.6422	12.01%	0.3591	
520.41	Chromium, Total (Cr), ICP, Dry ash (ppm)	2	2	4.982	0.8155						
520.42	Chromium, Total (Cr), ICP, Open vessel (ppm)	1	1	9.385							
520.51	Chromium, Total (Cr), ICP-MS, Dry ash (ppm)	1	1	1.425							
520.52	Chromium, Total (Cr), ICP-MS, Open vessel (ppm)	1	1	1.696							
526.53	Lead, ICP-MS, Microwave (ppm)	4	3	0.1217	0.0139	0.1217	0.0139	0.0080	11.44%	0.0064	
526.52	Lead, ICP-MS, Open vessel (ppm)	2	2	0.1238	0.0053						
526.31	Lead, AAS, Dry ash (ppm)	1	1	1.813							
526.34	Lead, AAS, Graphite furnace (ppm)	1	1	0.1536							
526.41	Lead, ICP, Dry ash (ppm)	2	1	0.1474							
526.43	Lead, ICP, Microwave (ppm)	2	1	0.1180							
529.99	Mercury, Miscellaneous (ppb)	3	1								

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539.53	Nickel, ICP-MS, Microwave (ppm)	3	3	4.200	1.679	4.200	1.679	0.9693	39.97%	0.0553	
539.43	Nickel, ICP, Microwave (ppm)	2	2	5.313	0.8875						
539.41	Nickel, ICP, Dry ash (ppm)	1	1	4.351							
539.51	Nickel, ICP-MS, Dry ash (ppm)	1	1	1.455							
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	1.535							
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0200							
704.00	Caproic Acid (6:0) , Miscellaneous GC (%)	1		0.0200							
706.99	Caprylic acid (8:0), Miscellaneous (% (w/w))	2		0.0200							
708.99	Capric acid (10:0), Miscellaneous (% (w/w))	2		0.0200							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	4	1								
714.99	Myristic Acid (14:0) , Miscellaneous (% (w/w))	2	1	0.0079							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.6467	0.0415						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	2	0.0080	0.0007	0.0080	0.0007			0.0006	
720.99	Margaric acid (17:0), Miscellaneous (% (w/w))	1		0.0200							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	2	0.0708	0.0094						
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.6744	0.0115						
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	1.916	0.0901	1.916	0.0901	0.0520	4.70%	0.0337	
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	3	3	0.1214	0.0066	0.1214	0.0066	0.0038	5.43%	0.0039	
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	1	0.0104							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	1	0.0166							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	2		0.0000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	4									
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	1	0.0091							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	2		0.0050							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	4									
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	2	1	0.0118							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	4									
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	2		0.0050							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	2	2	0.1235	0.0092						
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	2	2	1.914	0.1223						
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.8245							
764.99	Total cis Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.7660							
768.99	Total cis Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.948							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	3.727							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	3.516	0.0654						

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

Goat Feed, Medicated

Test Material Code # 202324

Methods Reported: 133

Labs Reporting: 169

Issue Date : 05/31/2023

Method Precision Report

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	7.973	0.6822	0.6770	0.1189	0.6874	8.49%	1.49%	8.62%	5.780
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	44	39	8.366	0.3143	0.1763	0.0817	0.1943	2.11%	0.98%	2.33%	2.378
001.99	Loss on Drying, Miscellaneous (%)	17	14	7.828	0.7997	0.5930	0.0855	0.5991	7.39%	1.07%	7.47%	7.009
002.01	Protein, Crude, Auto Kjel-Foss (%)	18	17	16.37	0.2221	0.2132	0.0825	0.2286	1.30%	0.50%	1.40%	2.770
002.05	Protein, Crude, Copper, Boric Acid (%)	26	24	16.40	0.3307	0.2382	0.1370	0.2748	1.46%	0.84%	1.68%	2.006
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	115	107	16.57	0.3401	0.2784	0.1511	0.3168	1.68%	0.91%	1.91%	2.096
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	10	8	3.583	0.3217	0.1397	0.1249	0.1874	4.00%	3.58%	5.37%	1.500
003.06	Fat, Crude, Pet Ether (%)	16	14	3.309	0.2485	0.2559	0.0440	0.2597	7.73%	1.33%	7.85%	5.907
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	10	10	3.427	0.1128	0.0902	0.0958	0.1316	2.63%	2.79%	3.84%	1.374
003.10	Fat, Crude, Randall, Pet Ether (%)	28	25	3.203	0.1934	0.1327	0.0594	0.1454	4.19%	1.87%	4.59%	2.447
003.13	Fat, Crude, Randall, Hexane Ext. (%)	6	5	4.483	2.848	0.1474	0.0482	0.1551	4.44%	1.45%	4.67%	3.216
003.14	Fat, Crude, Ankom (%)	54	49	3.264	0.3516	0.2934	0.0941	0.3081	9.00%	2.89%	9.45%	3.276
004.00	Fiber, Crude, Asbestos Free (%)	8	7	14.73	1.993	0.9166	0.2879	0.9607	6.50%	2.04%	6.82%	3.337
004.03	Fiber, Crude, Fritted Glass (%)	5	5	14.54	1.206	1.118	0.6373	1.287	7.69%	4.38%	8.85%	2.019
004.06	Fiber, Crude, Fibertec (%)	15	13	14.01	0.8669	0.8934	0.1777	0.9109	6.37%	1.27%	6.50%	5.125
004.07	Fiber, Crude, ANKOM (%)	72	65	14.51	2.195	0.9469	0.2191	0.9719	6.46%	1.50%	6.63%	4.436
005.00	Ash, 2h @ 600°C (%)	89	85	10.73	0.4986	0.4417	0.1310	0.4607	4.10%	1.22%	4.28%	3.517
005.05	Ash, 3h @ 550°C (%)	24	22	11.07	0.5500	0.3916	0.0857	0.4009	3.50%	0.77%	3.59%	4.678
005.99	Ash, Miscellaneous (%)	9	8	10.98	0.6089	0.6256	0.0930	0.6324	5.72%	0.85%	5.79%	6.799
006.99	Total Sugars, Miscellaneous (%)	6	6	3.976	1.047	1.041	0.1581	1.053	26.17%	3.98%	26.47%	6.657
008.02	Fiber, Acid Detergent, Crucible (%)	10	10	19.91	0.9260	0.9083	0.2543	0.9433	4.56%	1.28%	4.74%	3.709
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	43	38	19.54	1.660	1.332	0.2183	1.350	6.90%	1.13%	7.00%	6.185
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	11	37.19	1.901	1.878	0.4177	1.924	5.05%	1.12%	5.17%	4.607
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	40	36	35.76	1.259	1.061	0.3999	1.134	2.98%	1.12%	3.18%	2.836
010.99	Moisture, Miscellaneous (%)	16	14	8.205	0.5859	0.3907	0.0446	0.3933	4.70%	0.54%	4.73%	8.817
011.01	Loss on Drying, HT, 135°C 2hr (%)	66	61	9.114	0.4964	0.3750	0.0937	0.3866	4.11%	1.03%	4.23%	4.124
012.00	Starch, Polarimetric (Ewers) (%)	15	14	15.93	0.8900	0.5141	0.2015	0.5522	3.19%	1.25%	3.43%	2.740
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	9	14.93	1.046	0.3320	0.3715	0.4982	2.26%	2.53%	3.40%	1.341
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	6	6	14.87	0.5202	0.4787	0.2880	0.5586	3.22%	1.94%	3.76%	1.940
013.00	Fat, Pretreat, Acid hydrolysis (%)	17	17	3.955	0.5194	0.5055	0.1687	0.5329	12.78%	4.26%	13.48%	3.160
013.02	Fat, Pretreat, Mojonnier, Bak Ext, Acid hydrolysis (%)	12	12	4.358	0.6463	0.6446	0.0654	0.6479	14.79%	1.50%	14.87%	9.905
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	6	6	3.909	0.2533	0.2455	0.0883	0.2609	6.28%	2.26%	6.67%	2.956
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	9	9	4.494	0.7473	0.7449	0.0861	0.7498	16.58%	1.92%	16.69%	8.706
015.43	Aluminum, ICP, Microwave (ppm)	5	5	127.6	27.60	27.52	2.871	27.67	21.57%	2.25%	21.69%	9.636
017.41	Boron, ICP, Dry ash (ppm)	5	5	5.845	0.8201	0.7496	0.4706	0.8850	12.82%	8.05%	15.14%	1.881
017.42	Boron, ICP, Open vessel (ppm)	5	5	5.666	0.4406	0.4169	0.2015	0.4631	7.36%	3.56%	8.17%	2.298

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
019.00	Calcium, Ox-Mn04 Vol. (%)	6	6	2.263	0.0816	0.0700	0.0593	0.0918	3.09%	2.62%	4.06%	1.547
019.08	Calcium, EDTA (%)	12	11	2.309	0.1101	0.0717	0.0203	0.0745	3.14%	0.89%	3.26%	3.672
019.31	Calcium, AAS, Dry ash (%)	19	18	2.232	0.0967	0.0255	0.0630	0.0680	1.13%	2.80%	3.02%	1.079
019.41	Calcium, ICP, Dry ash (%)	21	19	2.280	0.1146	0.1059	0.0272	0.1094	4.68%	1.20%	4.83%	4.023
019.42	Calcium, ICP, Open vessel (%)	18	16	2.340	0.1807	0.1401	0.0599	0.1524	6.06%	2.59%	6.59%	2.546
019.43	Calcium, ICP, Microwave (%)	24	21	2.297	0.2355	0.1364	0.0316	0.1400	5.81%	1.35%	5.97%	4.431
019.99	Calcium, Miscellaneous (%)	6	6	2.188	0.0698	0.0640	0.0394	0.0751	2.92%	1.80%	3.43%	1.908
021.41	Cobalt, ICP, Dry ash (ppm)	5	5	1.432	0.4808	0.4806	0.0184	0.4809	33.55%	1.28%	33.58%	26.19
021.43	Cobalt, ICP, Microwave (ppm)	5	5	1.724	0.7475	0.7465	0.0546	0.7485	43.29%	3.17%	43.41%	13.71
022.31	Copper, AAS, Dry ash (ppm)	12	11	19.31	5.865	4.124	1.033	4.252	20.07%	5.03%	20.69%	4.114
022.41	Copper, ICP, Dry ash (ppm)	18	17	18.16	4.902	3.189	1.088	3.369	16.75%	5.72%	17.70%	3.096
022.42	Copper, ICP, Open vessel (ppm)	19	18	25.81	2.491	2.098	1.389	2.516	8.05%	5.33%	9.66%	1.812
022.43	Copper, ICP, Microwave (ppm)	23	22	25.40	1.111	1.084	0.4449	1.172	4.27%	1.75%	4.62%	2.635
025.31	Iron, AAS, Dry ash (ppm)	12	10	262.4	91.54	41.36	6.385	41.85	14.26%	2.20%	14.43%	6.555
025.41	Iron, ICP, Dry ash (ppm)	19	16	277.1	57.82	23.02	3.008	23.22	7.96%	1.04%	8.03%	7.720
025.42	Iron, ICP, Open vessel (ppm)	18	17	277.9	44.27	34.26	10.32	35.78	12.04%	3.63%	12.57%	3.467
025.43	Iron, ICP, Microwave (ppm)	19	18	301.5	34.51	20.97	5.908	21.79	6.81%	1.92%	7.08%	3.688
027.31	Magnesium, AAS, Dry ash (%)	8	7	0.3360	0.0143	0.0141	0.0036	0.0145	4.19%	1.08%	4.32%	4.010
027.41	Magnesium, ICP, Dry ash (%)	17	16	0.3248	0.0145	0.0138	0.0060	0.0151	4.26%	1.84%	4.64%	2.523
027.42	Magnesium, ICP, Open vessel (%)	19	19	0.3442	0.0212	0.0195	0.0117	0.0228	5.67%	3.41%	6.62%	1.942
027.43	Magnesium, ICP, Microwave (%)	21	20	0.3367	0.0232	0.0178	0.0073	0.0192	5.33%	2.19%	5.77%	2.628
028.31	Manganese, AAS, Dry ash (ppm)	12	11	136.4	9.467	9.117	3.574	9.793	6.73%	2.64%	7.22%	2.740
028.41	Manganese, ICP, Dry ash (ppm)	17	14	125.1	28.32	11.29	1.837	11.44	8.61%	1.40%	8.72%	6.229
028.42	Manganese, ICP, Open vessel (ppm)	19	19	149.1	13.35	12.94	4.682	13.76	8.68%	3.14%	9.23%	2.938
028.43	Manganese, ICP, Microwave (ppm)	21	20	147.8	9.363	9.436	2.438	9.746	6.39%	1.65%	6.60%	3.997
031.01	Phosphorus, Photometric (%)	34	32	0.6747	0.0663	0.0435	0.0078	0.0442	6.53%	1.18%	6.64%	5.634
031.41	Phosphorus, ICP, Dry ash (%)	19	17	0.6775	0.0316	0.0239	0.0116	0.0266	3.51%	1.70%	3.90%	2.298
031.42	Phosphorus, ICP, Open vessel (%)	20	18	0.6869	0.0342	0.0244	0.0180	0.0303	3.57%	2.64%	4.44%	1.681
031.43	Phosphorus, ICP, Microwave (%)	24	23	0.6796	0.0340	0.0276	0.0109	0.0297	4.09%	1.61%	4.39%	2.723
031.99	Phosphorus, Miscellaneous (%)	5	5	0.6440	0.0988	0.0985	0.0118	0.0992	15.29%	1.84%	15.40%	8.383
032.31	Potassium, AAS, Dry ash (%)	6	6	0.8819	0.0760	0.0757	0.0105	0.0764	8.58%	1.19%	8.66%	7.280
032.41	Potassium, ICP, Dry ash (%)	18	16	0.9166	0.0551	0.0539	0.0159	0.0562	5.88%	1.73%	6.13%	3.544
032.42	Potassium, ICP, Open vessel (%)	19	17	1.007	0.0782	0.0559	0.0279	0.0624	5.62%	2.80%	6.28%	2.241
032.43	Potassium, ICP, Microwave (%)	23	21	0.9904	0.0558	0.0258	0.0198	0.0326	2.65%	2.03%	3.34%	1.645
032.99	Potassium, Miscellaneous (%)	5	5	0.9658	0.0274	0.0267	0.0088	0.0281	2.76%	0.91%	2.91%	3.203
033.00	Salt as chloride, Sol Cl (%)	15	15	1.074	0.2315	0.2309	0.0236	0.2321	21.49%	2.20%	21.60%	9.835
033.01	Salt as chloride, Poten Cl (%)	28	25	1.230	0.0411	0.0242	0.0103	0.0263	1.96%	0.83%	2.13%	2.563
033.99	Salt, Miscellaneous (%)	7	7	1.095	0.2532	0.2511	0.0457	0.2552	22.93%	4.17%	23.31%	5.585
035.31	Sodium, AAS, Dry ash (%)	10	9	0.2755	0.0257	0.0242	0.0044	0.0246	8.89%	1.60%	9.04%	5.645
035.41	Sodium, ICP, Dry ash (%)	21	20	0.2978	0.0229	0.0225	0.0059	0.0232	7.55%	2.00%	7.81%	3.910
035.42	Sodium, ICP, Open vessel (%)	18	17	0.3040	0.0138	0.0126	0.0079	0.0149	4.13%	2.62%	4.89%	1.869
035.43	Sodium, ICP, Microwave (%)	20	18	0.3056	0.0139	0.0128	0.0089	0.0156	4.18%	2.93%	5.10%	1.743
036.42	Sulfur, ICP, Open vessel (%)	20	18	0.3200	0.0200	0.0196	0.0086	0.0214	6.12%	2.69%	6.68%	2.486
036.43	Sulfur, ICP, Microwave (%)	14	12	0.3338	0.0141	0.0082	0.0061	0.0102	2.43%	1.82%	3.03%	1.669
037.31	Zinc, AAS, Dry ash (ppm)	11	11	114.4	13.61	13.41	3.218	13.80	11.73%	2.81%	12.06%	4.287
037.41	Zinc, ICP, Dry ash (ppm)	17	15	108.7	26.05	13.73	4.855	14.56	12.08%	4.27%	12.82%	2.999

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
037.42	Zinc, ICP, Open vessel (ppm)	19	18	127.6	11.78	11.30	4.707	12.24	8.86%	3.69%	9.59%	2.601
037.43	Zinc, ICP, Microwave (ppm)	24	21	127.3	8.156	6.858	2.337	7.245	5.36%	1.83%	5.66%	3.100
037.99	Zinc, Miscellaneous (ppm)	5	5	122.3	10.94	10.43	4.693	11.44	8.53%	3.84%	9.35%	2.437
038.43	Molybdenum, ICP, Microwave (ppm)	6	6	1.426	0.6316	0.6197	0.1726	0.6433	43.47%	12.11%	45.13%	3.728
042.00	Chloride, Titrimetric (%)	6	6	0.7869	0.0989	0.0986	0.0110	0.0992	12.53%	1.40%	12.61%	8.991
106.02	Vitamin A, LC (KU / kg)	8	7	8.391	1.667	1.625	1.083	1.953	19.46%	12.97%	23.38%	1.803
108.02	Vitamin D3, LC (KU / kg)	7	5	2.478	0.5940	0.5790	0.1873	0.6085	23.37%	7.56%	24.56%	3.248
109.02	Vitamin E, LC (IU / kg)	12	11	59.08	31.03	12.76	2.813	13.07	25.10%	5.53%	25.70%	4.646
120.00	Alanine, Post-col Ninhydrin Der (%)	20	19	0.7491	0.0668	0.0251	0.0096	0.0269	3.30%	1.26%	3.53%	2.808
120.05	Alanine, Pre-col AQC Der (%)	11	10	0.7369	0.0464	0.0413	0.0088	0.0422	5.65%	1.21%	5.78%	4.778
121.00	Arginine, Post-col Ninhydrin Der (%)	20	19	1.046	0.1205	0.0787	0.0193	0.0810	7.38%	1.81%	7.60%	4.202
121.05	Arginine, Pre-col AQC Der (%)	11	11	1.107	0.0812	0.0760	0.0405	0.0861	6.86%	3.66%	7.78%	2.125
122.00	Aspartic, Post-col Ninhydrin Der (%)	20	18	1.149	0.1057	0.0326	0.0152	0.0360	2.79%	1.31%	3.08%	2.361
122.05	Aspartic, Pre-col AQC Der (%)	11	11	1.149	0.0951	0.0941	0.0187	0.0960	8.20%	1.63%	8.36%	5.135
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	20	17	0.2828	0.0317	0.0155	0.0024	0.0157	5.36%	0.84%	5.42%	6.485
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	8	0.2893	0.0405	0.0390	0.0154	0.0419	13.47%	5.32%	14.49%	2.725
124.99	Cysteine/Cystine, Miscellaneous (%)	5	5	0.2747	0.0098	0.0051	0.0117	0.0128	1.86%	4.28%	4.66%	1.091
125.00	Glutamic, Post-col Ninhydrin Der (%)	20	17	2.720	0.2719	0.1301	0.0190	0.1315	4.70%	0.69%	4.75%	6.922
125.05	Glutamic, Pre-col AQC Der (%)	11	10	2.835	0.2227	0.1990	0.0387	0.2028	7.11%	1.38%	7.24%	5.236
126.00	Glycine, Post-col Ninhydrin Der (%)	20	18	0.7373	0.0786	0.0192	0.0126	0.0229	2.59%	1.70%	3.09%	1.824
126.05	Glycine, Pre-col AQC Der (%)	11	11	0.7647	0.0252	0.0153	0.0283	0.0322	2.00%	3.70%	4.21%	1.137
127.00	Histidine, Post-col Ninhydrin Der (%)	20	18	0.3909	0.0423	0.0203	0.0067	0.0213	5.08%	1.67%	5.35%	3.196
127.05	Histidine, Pre-col AQC Der (%)	11	10	0.3762	0.0514	0.0417	0.0137	0.0439	11.37%	3.74%	11.97%	3.204
128.00	Isoleucine, Post-col Ninhydrin Der (%)	20	18	0.4836	0.0523	0.0345	0.0088	0.0356	7.00%	1.79%	7.23%	4.048
128.05	Isoleucine, Pre-col AQC Der (%)	11	11	0.4920	0.0513	0.0506	0.0121	0.0520	10.28%	2.46%	10.57%	4.301
129.00	Leucine, Post-col Ninhydrin Der (%)	20	19	1.058	0.1071	0.0544	0.0129	0.0559	5.04%	1.20%	5.18%	4.331
129.05	Leucine, Pre-col AQC Der (%)	11	8	1.049	0.1153	0.0637	0.0064	0.0641	5.95%	0.60%	5.98%	9.958
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	20	0.6293	0.0606	0.0247	0.0103	0.0267	3.86%	1.61%	4.19%	2.597
130.05	L-Lysine, Pre-col AQC Der (%)	10	10	0.6224	0.0718	0.0714	0.0110	0.0723	11.47%	1.76%	11.61%	6.579
130.99	L-Lysine, Miscellaneous (%)	5	5	0.6471	0.1195	0.1187	0.0195	0.1203	18.34%	3.01%	18.59%	6.184
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	20	19	0.2300	0.0169	0.0166	0.0072	0.0181	7.21%	3.15%	7.87%	2.499
131.05	Methionine, PAO Pre-col AQC Der (%)	9	9	0.2490	0.0659	0.0654	0.0114	0.0664	26.28%	4.59%	26.68%	5.818
131.99	Methionine, Miscellaneous (%)	5	5	0.2558	0.0704	0.0703	0.0048	0.0705	27.48%	1.86%	27.55%	14.82
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	20	18	0.6727	0.0658	0.0324	0.0076	0.0333	4.72%	1.11%	4.85%	4.371
132.05	Phenylalanine, Pre-col AQC Der (%)	11	9	0.6702	0.0573	0.0194	0.0114	0.0226	2.87%	1.69%	3.33%	1.973
133.00	Proline, Post-col Ninhydrin Der (%)	20	16	0.8923	0.1144	0.0580	0.0119	0.0592	6.46%	1.33%	6.59%	4.968
133.05	Proline, Pre-col AQC Der (%)	11	10	0.9079	0.0548	0.0571	0.0103	0.0580	6.28%	1.13%	6.38%	5.631
134.00	Serine, Post-col Ninhydrin Der (%)	20	18	0.6737	0.0638	0.0331	0.0101	0.0346	4.83%	1.48%	5.05%	3.416
134.05	Serine, Pre-col AQC Der (%)	11	11	0.7179	0.0587	0.0556	0.0269	0.0617	7.74%	3.75%	8.60%	2.295
135.00	Threonine, Post-col Ninhydrin Der (%)	20	18	0.5039	0.0473	0.0171	0.0063	0.0183	3.34%	1.23%	3.56%	2.886
135.05	Threonine, Pre-col AQC Der (%)	11	10	0.5282	0.0337	0.0310	0.0080	0.0320	5.93%	1.54%	6.12%	3.981
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	5	0.2131	0.0718	0.0797	0.0000	0.0797	36.76%	0.00%	36.76%	
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	8	7	0.2136	0.0097	0.0046	0.0015	0.0049	2.21%	0.71%	2.32%	3.276
137.00	Tyrosine, Post-col Ninhydrin Der (%)	17	15	0.4221	0.0657	0.0543	0.0127	0.0557	12.54%	2.93%	12.88%	4.390
137.05	Tyrosine, Pre-col AQC Der (%)	11	11	0.4493	0.0614	0.0597	0.0203	0.0631	13.29%	4.52%	14.04%	3.104
138.00	Valine, Post-col Ninhydrin Der (%)	20	18	0.6830	0.0763	0.0473	0.0100	0.0483	6.79%	1.44%	6.94%	4.819

Test Material Code # 202324

Issue Date : 05/31/2023

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
138.05	Valine, Pre-col AQC Der (%)	11	11	0.6865	0.0413	0.0398	0.0154	0.0427	5.80%	2.24%	6.22%	2.780
354.01	Decoquinate, LC (UV or FL) (ppm)	8	7	155.0	10.52	11.21	2.417	11.47	7.22%	1.56%	7.39%	4.745
365.03	Monensin, LC-PCD (ppm)	7	6	18.89	1.464	0.3946	0.7310	0.8307	2.03%	3.77%	4.28%	1.136
365.05	Monensin, LC-MS/MS (ppm)	7	5	18.48	2.419	1.148	0.8076	1.403	6.00%	4.22%	7.34%	1.737
400.01	Water Activity, Aqualab chilled mirror (Units)	14	12	0.4732	0.0208	0.0193	0.0070	0.0205	4.07%	1.46%	4.32%	2.954

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