



AAFCO
Association of American Feed Control Officials



Animal Feed Scheme
Dry Dog Feed
Test Material Code # 202622

Method Summary Report
(Precision Report Follows)

Labs Reporting: 180
Methods Reported: 365
Issue Date : 03/31/2026

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
000.99	Urea, Miscellaneous (%)	1	1	0.2450							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	70	68	5.606	0.2136	5.610	0.1748	0.0265	3.12%	0.0768	3.09%
001.99	Loss on Drying, Miscellaneous (%)	12	12	5.104	1.146	5.354	0.5048	0.1822	9.43%	0.1533	3.11%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	5.294	0.6463	5.294	0.6463	0.4570	12.21%	0.1529	3.11%
001.03	Loss on Drying, Low temp. methods (%)	2	2	5.720	0.0566						
001.05	Loss on Drying, LECO (%)	1	1	5.534							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	131	130	28.36	0.4367	28.38	0.2619	0.0287	0.92%	0.1871	1.88%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	19	19	28.00	0.3581	28.01	0.3977	0.1140	1.42%	0.1512	1.89%
002.05	Protein, Crude, Copper, Boric Acid (%)	13	13	27.98	0.2115	27.98	0.2363	0.0819	0.84%	0.1359	1.89%
002.11	Protein, Crude, NIR (%)	3	3	28.01	0.1674	28.01	0.1674	0.0966	0.60%	0.1367	1.89%
002.08	Protein, Crude, Cu/Ti (%)	2	2	27.76	0.0078						
002.99	Protein, Crude, Miscellaneous (%)	2	2	28.27	0.1839						
002.00	Protein, Crude, Crude (%)	1	1	26.68							
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	1	1	28.61							
002.04	Protein, Crude, Copper Catalyst (%)	1	1	27.95							
003.14	Fat, Crude, Ankom (%)	38	38	12.14	1.072	11.92	0.3591	0.0728	3.01%	0.1430	2.75%
003.10	Fat, Crude, Randall, Pet Ether (%)	24	23	11.83	0.2766	11.82	0.2722	0.0709	2.30%	0.1107	2.76%
003.06	Fat, Crude, Pet Ether (%)	13	12	11.76	0.2405	11.76	0.2727	0.0984	2.32%	0.2403	2.76%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	8	8	12.22	1.508	11.79	0.4387	0.1939	3.72%	0.0834	2.76%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	6	6	10.55	4.618	11.74	0.6123	0.3125	5.21%	0.1180	2.76%
003.12	Fat, Crude, Hexane Ext (%)	4	4	11.91	0.3502	11.91	0.3502	0.1751	2.94%	0.6175	2.75%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	3	3	11.04	1.436	11.04	1.436	0.8288	13.00%	0.1293	2.79%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	2	2	12.11	0.3380						
003.99	Fat, Crude, Miscellaneous (%)	2	2	12.90	3.182						
003.11	Fat, Crude, NIR (%)	1	1	12.91							
004.07	Fiber, Crude, ANKOM (%)	69	67	2.166	0.4421	2.107	0.3220	0.0492	15.28%	0.1224	3.58%
004.06	Fiber, Crude, Fibertec (%)	15	14	2.271	0.3567	2.280	0.3850	0.1286	16.89%	0.1035	3.53%
004.00	Fiber, Crude, Asbestos Free (%)	7	7	2.060	0.8965	1.863	0.4943	0.2335	26.54%	0.1193	3.64%
004.03	Fiber, Crude, Fritted Glass (%)	2	2	3.204	0.7191						

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004.99	Fiber, Crude, Miscellaneous (%)	2	2	2.613	1.070						
004.11	Fiber, Crude, NIR (%)	1	1	1.645							
005.00	Ash, 2h @ 600°C (%)	93	89	7.569	0.1381	7.580	0.1041	0.0138	1.37%	0.0537	2.95%
005.05	Ash, 3h @ 550°C (%)	22	22	7.593	0.1536	7.615	0.1226	0.0327	1.61%	0.0463	2.95%
005.03	Ash, Microwave furnace (%)	9	9	7.685	0.0661	7.685	0.0750	0.0313	0.98%	0.0365	2.94%
005.99	Ash, Miscellaneous (%)	6	6	7.568	0.1673	7.595	0.1240	0.0633	1.63%	0.0858	2.95%
005.11	Ash, NIR (%)	2	2	7.205	3.981						
005.02	Ash, LECO (%)	1	1	7.769							
006.00	Total Sugars, As sucrose (%)	3	3	1.520	1.709	1.520	1.709	0.9866	112.40%	0.1188	3.76%
006.99	Total Sugars, Miscellaneous (%)	2	2	1.735	0.3748						
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	30	29	4.228	1.606	4.003	1.278	0.2967	31.93%	0.2003	3.25%
008.02	Fiber, Acid Detergent, Crucible (%)	6	6	3.364	0.7663	3.365	0.8680	0.4429	25.80%	0.2128	3.33%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	26	25	13.02	2.977	12.81	2.891	0.7227	22.57%	0.5205	2.72%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	5	5	9.843	1.632	9.843	1.632	0.7299	16.58%	0.7540	2.84%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	1	1	16.14							
010.99	Moisture, Miscellaneous (%)	19	19	5.558	0.3971	5.539	0.3703	0.1062	6.68%	0.1379	3.09%
010.11	Moisture, NIR (%)	3	3	5.802	0.6656	5.802	0.6656	0.4707	11.47%	0.3550	3.07%
010.03	Moisture, Karl-Fischer (%)	1	1	5.550							
011.01	Loss on Drying, HT, 135°C 2hr (%)	62	61	6.025	0.3902	6.044	0.3769	0.0603	6.24%	0.0922	3.05%
011.02	Loss on Drying, HT, 130°C for 2 hours (%)	3	3	5.975	0.4784	5.975	0.4784	0.2762	8.01%	0.1633	3.06%
011.99	Loss on Drying, HT, High Temp. Methods Miscellaneous (%)	3	3	5.757	0.2215	5.757	0.2215	0.1279	3.85%	0.2733	3.07%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	9	9	32.57	2.056	32.57	2.331	0.9713	7.16%	1.030	1.75%
012.00	Starch, Polarimetric (Ewers) (%)	8	8	34.01	0.8234	34.01	0.9337	0.4126	2.75%	0.2371	1.71%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	6	6	32.92	1.225	32.86	1.235	0.6302	3.76%	1.028	1.74%
012.99	Starch, Miscellaneous (%)	3	3	24.55	14.55	24.55	14.55	10.29	59.26%	0.1628	2.02%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	1	1	33.75							
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	32.39							
013.02	Fat, Pretreat, Mojonier, Bak Ext, Acid hydrolysis (%)	47	47	15.78	0.7045	15.85	0.5175	0.0943	3.26%	0.2542	2.51%
013.00	Fat, Pretreat, Acid hydrolysis (%)	26	25	15.38	0.3916	15.35	0.3867	0.0967	2.52%	0.3333	2.55%
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	25	25	15.26	0.5952	15.26	0.6408	0.1602	4.20%	0.2125	2.56%
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	8	8	15.00	0.5032	15.03	0.3923	0.1734	2.61%	0.2753	2.58%
013.08	Fat, Pretreat, Roese-Gottlieb Modified, Alkaline Hydrolysis (%)	1	1	12.30							
014.02	Fiber, Total Dietary, ANKOM Enz-Grav (%)	1	1	8.550							
015.43	Aluminum, ICP, Microwave (ppm)	5	5	74.62	14.47	74.62	14.47	6.469	19.39%	5.665	8.36%
015.41	Aluminum, ICP, Dry ash (ppm)	2	2	54.41	2.489						
015.42	Aluminum, ICP, Open vessel (ppm)	2	2	38.40	15.41						
015.53	Aluminum, ICP-MS, Microwave (ppm)	1	1	75.16							
015.99	Aluminum, Miscellaneous (ppm)	1	1	48.30							
017.41	Boron, ICP, Dry ash (ppm)	4	4	3.281	0.2742	3.281	0.2742	0.1371	8.36%	0.3482	13.38%
017.42	Boron, ICP, Open vessel (ppm)	4	4	4.389	2.141	4.389	2.141	1.071	48.79%	1.115	12.80%

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017.43	Boron, ICP, Microwave (ppm)	4	4	2.931	0.2929	2.931	0.2929	0.1464	9.99%	0.5707	13.61%
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	3.406							
017.99	Boron, Miscellaneous (ppm)	1	1	3.110							
019.43	Calcium, ICP, Microwave (%)	44	43	1.765	0.3480	1.745	0.0653	0.0124	3.74%	0.0431	3.68%
019.44	Calcium, ICP, Dry ash (%)	22	21	1.737	0.0513	1.738	0.0519	0.0141	2.98%	0.0252	3.68%
019.41	Calcium, ICP, Dry ash (%)	17	17	1.753	0.0559	1.754	0.0619	0.0188	3.53%	0.0399	3.68%
019.42	Calcium, ICP, Open vessel (%)	14	14	1.787	0.0918	1.791	0.0951	0.0318	5.31%	0.0522	3.66%
019.31	Calcium, AAS, Dry ash (%)	12	12	1.764	0.0660	1.773	0.0489	0.0176	2.76%	0.0169	3.67%
019.08	Calcium, EDTA (%)	9	9	1.795	0.1083	1.795	0.1228	0.0512	6.84%	0.0410	3.66%
019.99	Calcium, Miscellaneous (%)	7	7	1.646	0.1360	1.645	0.1086	0.0513	6.60%	0.0375	3.71%
019.00	Calcium, Ox-Mn04 Vol. (%)	4	4	1.786	0.1100	1.786	0.1100	0.0550	6.16%	0.0660	3.67%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	1.762	0.1085	1.762	0.1085	0.0543	6.16%	0.0440	3.67%
019.52	Calcium, ICP-MS, Open vessel (%)	2	2	1.752	0.0268						
019.02	Calcium, Hach Method (%)	1	1	1.625							
019.32	Calcium, AAS, Open vessel (%)	1	1	1.875							
021.43	Cobalt, ICP, Microwave (ppm)	6	6	1.396	0.2758	1.396	0.3128	0.1596	22.40%	0.1183	15.21%
021.41	Cobalt, ICP, Dry ash (ppm)	3	3	1.182	0.2830	1.182	0.2830	0.1634	23.95%	0.0205	15.60%
021.31	Cobalt, AAS, Dry ash (ppm)	1	1	1.170							
021.42	Cobalt, ICP, Open vessel (ppm)	1	1	0.8390							
021.52	Cobalt, ICP-MS, Open vessel (ppm)	2	1	0.3350							
021.53	Cobalt, ICP-MS, Microwave (ppm)	1	1	1.552							
021.99	Cobalt, Miscellaneous (ppm)	2	1	0.9500							
022.43	Copper, ICP, Microwave (ppm)	41	40	11.85	1.433	11.85	0.7259	0.1435	6.13%	0.3665	11.03%
022.44	Copper, ICP, Dry ash (ppm)	22	21	10.47	0.6623	10.42	0.6171	0.1683	5.92%	0.3426	11.24%
022.42	Copper, ICP, Open vessel (ppm)	15	15	12.51	1.660	12.28	1.161	0.3746	9.45%	0.5648	10.97%
022.41	Copper, ICP, Dry ash (ppm)	11	11	11.36	1.901	11.21	1.373	0.5173	12.25%	0.9353	11.12%
022.31	Copper, AAS, Dry ash (ppm)	7	7	11.83	1.170	11.83	1.326	0.6266	11.21%	0.3620	11.03%
022.99	Copper, Miscellaneous (ppm)	5	5	12.10	2.921	12.10	2.921	1.306	24.14%	0.9333	10.99%
022.53	Copper, ICP-MS, Microwave (ppm)	3	3	12.06	0.6383	12.06	0.6383	0.4513	5.29%	0.1969	11.00%
022.32	Copper, AAS, Open vessel (ppm)	1	1	15.00							
022.52	Copper, ICP-MS, Open vessel (ppm)	1	1	11.79							
024.52	Iodine, ICP-MS, Open vessel (ppm)	1	1	2.140							
025.43	Iron, ICP, Microwave (ppm)	27	25	164.7	12.30	164.8	12.59	3.146	7.64%	2.922	7.42%
025.41	Iron, ICP, Dry ash (ppm)	13	13	151.7	12.52	152.8	11.27	3.906	7.37%	4.151	7.50%
025.42	Iron, ICP, Open vessel (ppm)	14	13	155.8	11.60	156.6	11.03	3.822	7.04%	3.123	7.48%
025.31	Iron, AAS, Dry ash (ppm)	9	8	153.7	15.88	153.7	18.00	7.957	11.71%	1.456	7.50%
025.99	Iron, Miscellaneous (ppm)	4	4	162.4	21.88	162.4	21.88	10.94	13.48%	3.750	7.44%
025.52	Iron, ICP-MS, Open vessel (ppm)	2	2	180.9	51.79						
025.53	Iron, ICP-MS, Microwave (ppm)	2	2	157.1	18.49						
027.43	Magnesium, ICP, Microwave (%)	43	42	0.1186	0.0187	0.1162	0.0049	0.0009	4.20%	0.0028	5.53%

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027.44	Magnesium, ICP, Dry ash (%)	21	20	0.1140	0.0036	0.1139	0.0031	0.0009	2.71%	0.0010	5.55%
027.42	Magnesium, ICP, Open vessel (%)	14	14	0.1182	0.0071	0.1189	0.0061	0.0020	5.14%	0.0087	5.51%
027.41	Magnesium, ICP, Dry ash (%)	13	12	0.1151	0.0052	0.1154	0.0053	0.0019	4.58%	0.0024	5.54%
027.31	Magnesium, AAS, Dry ash (%)	10	9	0.1118	0.0153	0.1155	0.0061	0.0025	5.24%	0.0049	5.53%
027.99	Magnesium, Miscellaneous (%)	5	3	0.1167	0.0058	0.1167	0.0058				5.53%
027.52	Magnesium, ICP-MS, Open vessel (%)	2	2	0.1172	0.0047						
027.53	Magnesium, ICP-MS, Microwave (%)	2	2	0.1250	0.0070						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.1350							
028.43	Manganese, ICP, Microwave (ppm)	41	40	25.96	1.596	25.88	1.581	0.3124	6.11%	1.218	9.80%
028.44	Manganese, ICP, Dry ash (ppm)	22	21	24.86	1.389	25.04	1.004	0.2738	4.01%	0.6207	9.85%
028.42	Manganese, ICP, Open vessel (ppm)	15	15	26.26	2.211	26.26	2.507	0.8092	9.55%	2.220	9.78%
028.41	Manganese, ICP, Dry ash (ppm)	11	11	24.87	1.933	24.75	1.865	0.7028	7.53%	1.203	9.87%
028.31	Manganese, AAS, Dry ash (ppm)	9	9	24.95	1.541	24.92	1.687	0.7030	6.77%	0.4816	9.86%
028.99	Manganese, Miscellaneous (ppm)	5	4	26.09	0.3224	26.09	0.3224	0.1612	1.24%	1.575	9.79%
028.53	Manganese, ICP-MS, Microwave (ppm)	3	3	37.43	18.03	37.43	18.03	10.41	48.16%	2.054	9.27%
028.32	Manganese, AAS, Open vessel (ppm)	1	1	33.65							
028.52	Manganese, ICP-MS, Open vessel (ppm)	1	1	25.42							
030.99	Nitrate, Miscellaneous (%)	1		0.0000							
031.43	Phosphorus, ICP, Microwave (%)	46	45	1.073	0.1152	1.086	0.0444	0.0083	4.09%	0.0252	3.95%
031.44	Phosphorus, ICP, Dry ash (%)	23	23	1.051	0.0339	1.051	0.0298	0.0078	2.83%	0.0209	3.97%
031.01	Phosphorus, Photometric (%)	22	20	1.071	0.0450	1.077	0.0313	0.0088	2.91%	0.0274	3.96%
031.41	Phosphorus, ICP, Dry ash (%)	16	16	1.086	0.0585	1.083	0.0550	0.0172	5.07%	0.0230	3.95%
031.42	Phosphorus, ICP, Open vessel (%)	14	14	1.066	0.0432	1.068	0.0434	0.0145	4.06%	0.0378	3.96%
031.99	Phosphorus, Miscellaneous (%)	6	6	0.9774	0.1243	0.9784	0.1388	0.0708	14.19%	0.0194	4.01%
031.03	Phosphorus, Autoanalyzer (%)	2	2	0.9720	0.1725						
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	1.118	0.0414						
031.53	Phosphorus, ICP-MS, Microwave (%)	2	2	1.165	0.0995						
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	1	1	1.075							
032.43	Potassium, ICP, Microwave (%)	42	42	0.7083	0.0453	0.7105	0.0247	0.0048	3.48%	0.0158	4.21%
032.44	Potassium, ICP, Dry ash (%)	21	20	0.7001	0.0279	0.7022	0.0250	0.0070	3.56%	0.0100	4.22%
032.41	Potassium, ICP, Dry ash (%)	15	15	0.6997	0.0399	0.6993	0.0428	0.0138	6.12%	0.0161	4.22%
032.42	Potassium, ICP, Open vessel (%)	14	13	0.7324	0.0306	0.7333	0.0326	0.0113	4.45%	0.0319	4.19%
032.31	Potassium, AAS, Dry ash (%)	9	8	0.6444	0.1343	0.6723	0.0762	0.0337	11.34%	0.0066	4.25%
032.99	Potassium, Miscellaneous (%)	5	5	0.7196	0.0486	0.7196	0.0486	0.0217	6.75%	0.0164	4.20%
032.53	Potassium, ICP-MS, Microwave (%)	3	3	0.9679	0.3643	0.9679	0.3643	0.2103	37.64%	0.0152	4.02%
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	0.7258	0.0117						
032.32	Potassium, AAS, Open vessel (%)	1	1	0.8350							
033.01	Salt as chloride, Poten Cl (%)	18	18	1.215	0.0247	1.212	0.0166	0.0049	1.37%	0.0100	3.89%
033.99	Salt, Miscellaneous (%)	10	10	1.039	0.2778	1.085	0.1881	0.0743	17.33%	0.0204	3.95%
033.00	Salt as chloride, Sol Cl (%)	9	9	1.144	0.0543	1.145	0.0598	0.0249	5.22%	0.0354	3.92%

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033.03	Salt as chloride, Quantab (%)	3	3	1.103	0.1185	1.103	0.1185	0.0838	10.74%		3.94%
033.05	Salt as chloride, Ion Sel Electrode (%)	1	1	1.220							
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	8	8	0.7044	0.1318	0.7044	0.1494	0.0660	21.21%	0.0514	16.86%
034.04	Selenium, Total (Se), AA, Hydride (ppm)	3	3	0.7941	0.4379	0.7941	0.4379	0.2528	55.15%	0.0336	16.56%
034.43	Selenium, Total (Se), ICP, Microwave (ppm)	5	3	0.9802	0.4590	0.9802	0.4590	0.2650	46.82%	0.0250	16.04%
034.52	Selenium, Total (Se), ICP-MS, Open vessel (ppm)	3	3	0.6282	0.0319	0.6282	0.0319	0.0184	5.07%	0.0317	17.16%
034.41	Selenium, Total (Se), ICP, Dry ash (ppm)	2	2	1.004	0.6161						
034.99	Selenium, Total (Se), Miscellaneous (ppm)	2	2	1.040	0.0566						
034.01	Selenium, Total (Se), Fluor (ppm)	1	1	0.6315							
034.42	Selenium, Total (Se), ICP, Open vessel (ppm)	1	1	1.140							
035.43	Sodium, ICP, Microwave (%)	40	39	0.3499	0.0155	0.3491	0.0133	0.0027	3.82%	0.0061	4.69%
035.41	Sodium, ICP, Dry ash (%)	36	35	0.3434	0.0131	0.3430	0.0128	0.0027	3.73%	0.0109	4.70%
035.42	Sodium, ICP, Open vessel (%)	13	12	0.3542	0.0121	0.3530	0.0107	0.0039	3.02%	0.0077	4.68%
035.31	Sodium, AAS, Dry ash (%)	9	9	0.3171	0.0793	0.3354	0.0358	0.0149	10.68%	0.0034	4.71%
035.99	Sodium, Miscellaneous (%)	5	5	0.3520	0.0407	0.3520	0.0407	0.0182	11.57%	0.0267	4.68%
035.53	Sodium, ICP-MS, Microwave (%)	3	3	0.4525	0.1655	0.4525	0.1655	0.0955	36.56%	0.0085	4.51%
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.3473	0.0152						
035.32	Sodium, AAS, Open vessel (%)	1	1	0.3700							
036.42	Sulfur, ICP, Open vessel (%)	16	15	0.4118	0.0253	0.4118	0.0287	0.0093	6.96%	0.0127	4.57%
036.43	Sulfur, ICP, Microwave (%)	15	15	0.4310	0.0334	0.4306	0.0367	0.0118	8.52%	0.0085	4.54%
036.04	Sulfur, LECO (%)	5	4	0.4310	0.0308	0.4310	0.0308				4.54%
036.99	Sulfur, Miscellaneous (%)	2	2	0.3875	0.0106						
036.52	Sulfur, ICP-MS, Open vessel (%)	1	1	0.4265							
037.43	Zinc, ICP, Microwave (ppm)	45	43	193.1	11.95	193.7	7.811	1.489	4.03%	3.876	7.24%
037.44	Zinc, ICP, Dry ash (ppm)	19	19	179.8	9.294	181.0	6.427	1.843	3.55%	3.639	7.32%
037.41	Zinc, ICP, Dry ash (ppm)	15	15	183.3	10.47	183.5	10.81	3.488	5.89%	5.915	7.30%
037.42	Zinc, ICP, Open vessel (ppm)	15	15	194.1	15.95	194.4	17.48	5.641	8.99%	5.422	7.24%
037.31	Zinc, AAS, Dry ash (ppm)	8	8	189.9	10.91	190.3	11.31	5.001	5.95%	2.243	7.26%
037.99	Zinc, Miscellaneous (ppm)	5	5	199.0	26.49	199.0	26.49	11.85	13.31%	3.333	7.21%
037.53	Zinc, ICP-MS, Microwave (ppm)	2	2	198.5	16.26						
037.32	Zinc, AAS, Open vessel (ppm)	1	1	196.5							
037.52	Zinc, ICP-MS, Open vessel (ppm)	1	1	197.3							
038.43	Molybdenum, ICP, Microwave (ppm)	7	4	0.6848	0.2442	0.6848	0.2442	0.1526	35.65%	0.0946	16.93%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	4	4	0.6365	0.0396	0.6365	0.0396	0.0198	6.22%	0.0244	17.12%
038.42	Molybdenum, ICP, Open vessel (ppm)	4	3	0.6145	0.1255	0.6145	0.1255	0.0724	20.42%	0.0917	17.21%
038.41	Molybdenum, ICP, Dry ash (ppm)	2	2	0.8350	0.4102						
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	2	2	0.5500	0.0354						
038.99	Molybdenum, Miscellaneous (ppm)	2	1	0.7700							
040.43	Barium, ICP, Microwave (ppm)	1	1	7.160							
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	6.423							

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041.53	Vanadium, ICP-MS, Microwave (ppm)	1	1	0.1941							
042.00	Chloride, Titrimetric (%)	7	6	0.7278	0.0130	0.7275	0.0132	0.0068	1.82%	0.0136	4.20%
042.99	Chloride, Miscellaneous (%)	2	2	0.7263	0.0124						
101.99	Choline Chloride, Miscellaneous (ppm)	2	2	2,495	63.64						
101.02	Choline Chloride, LC (ppm)	1	1	1,416							
102.01	Niacin, Microbiological (ppm)	1	1	131.5							
102.02	Niacin, LC (ppm)	1	1	86.30							
102.99	Niacin, Miscellaneous (ppm)	1	1	122.5							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	41.25							
104.03	Riboflavin, LC (ppm)	3	3	9.813	0.7982	9.813	0.7982	0.5644	8.13%	0.5600	11.34%
104.99	Riboflavin, Miscellaneous (ppm)	1	1	11.50							
105.00	Thiamine, LC (ppm)	3	3	24.17	3.799	24.17	3.799	2.193	15.72%	1.513	9.91%
105.01	Thiamine, Fluorometer (ppm)	1	1	33.75							
106.02	Vitamin A, LC (KU / kg)	10	9	1,816	5,407	14.13	2.148	0.8951	15.20%	1.298	
106.01	Vitamin A, UV (KU / kg)	2	2	1,709	2,391						
106.00	Vitamin A, Color (KU / kg)	1	1	10.16							
106.03	#N/A	1	1	17.58							
106.99	Vitamin A, Miscellaneous (KU / kg)	1	1	5.980							
107.00	Vitamin B12, Microbiological (ppb)	1	1	57.30							
108.02	Vitamin D3, LC (KU / kg)	8	8	1.385	0.2614	1.385	0.2964	0.1310	21.40%	0.1274	
108.99	Vitamin D3, Miscellaneous (KU / kg)	3	3	12.37	19.60	12.37	19.60	13.86	158.54%	0.0650	
109.02	Vitamin E, LC (IU / kg)	14	13	164.2	41.83	159.7	31.75	11.01	19.89%	7.026	
109.99	Vitamin E, Miscellaneous (IU / kg)	2	2	157.5	57.28						
109.03	#N/A	1	1	207.3							
111.00	Vitamin C, Phosphorylated, LC (ppm)	1		4.400							
112.01	Pyridoxine, LC (µg / g)	2	2	10.73	5.904						
112.99	Pyridoxine, Miscellaneous (µg / g)	1	1	7.950							
113.01	Folic Acid, Micro (ppm)	1	1	2.645							
113.99	Folic acid, Miscellaneous (ppm)	1	1	1.945							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.0400							
118.01	Peroxide value, Titrimetric Method (meq/kg)	1	1	17.50							
120.00	Alanine, Post-col Ninhydrin Der (%)	9	9	1.686	0.0301	1.689	0.0287	0.0120	1.70%	0.0144	3.70%
120.05	Alanine, Pre-col AQC Der (%)	8	8	1.688	0.0770	1.682	0.0753	0.0333	4.48%	0.0368	3.70%
120.02	Alanine, Post-col OPA Der (%)	2	2	1.618	0.0318						
120.99	Alanine, Miscellaneous (%)	2	2	1.830	0.2192						
121.00	Arginine, Post-col Ninhydrin Der (%)	9	9	1.799	0.1000	1.811	0.0819	0.0341	4.52%	0.0286	3.66%
121.05	Arginine, Pre-col AQC Der (%)	8	8	1.819	0.1466	1.797	0.1120	0.0495	6.23%	0.0652	3.66%
121.02	Arginine, Post-col OPA Der (%)	2	2	1.676	0.0057						
121.99	Arginine, Miscellaneous (%)	2	2	2.155	0.8910						
122.00	Aspartic, Post-col Ninhydrin Der (%)	9	9	2.171	0.0590	2.171	0.0669	0.0279	3.08%	0.0248	3.56%

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122.05	Aspartic, Pre-col AQC Der (%)	8	8	2.170	0.0686	2.172	0.0717	0.0317	3.30%	0.0260	3.56%
122.02	Aspartic, Post-col OPA Der (%)	2	2	2.069	0.0403						
122.99	Aspartic, Miscellaneous (%)	2	2	1.940	0.2192						
124.00	Cysteine/Cystine, PAO Post-col Ninhydry (%)	9	9	0.4171	0.0211	0.4188	0.0199	0.0083	4.74%	0.0105	4.56%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	8	0.4254	0.0635	0.4254	0.0720	0.0318	16.93%	0.0120	4.55%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	3	3	0.4172	0.0327	0.4172	0.0327	0.0189	7.84%	0.0115	4.56%
125.00	Glutamic, Post-col Ninhydry Der (%)	9	9	4.095	0.0981	4.095	0.1112	0.0463	2.72%	0.0611	3.24%
125.05	Glutamic, Pre-col AQC Der (%)	8	8	4.152	0.1308	4.155	0.1423	0.0629	3.43%	0.0390	3.23%
125.02	Glutamic, Post-col OPA Der (%)	2	2	3.832	0.2362						
125.99	Glutamic, Miscellaneous (%)	2	2	3.505	0.4596						
126.00	Glycine, Post-col Ninhydry Der (%)	9	9	2.312	0.0766	2.319	0.0701	0.0292	3.02%	0.0204	3.52%
126.05	Glycine, Pre-col AQC Der (%)	8	8	2.277	0.1323	2.269	0.1324	0.0585	5.84%	0.0724	3.54%
126.02	Glycine, Post-col OPA Der (%)	2	2	2.179	0.1326						
126.99	Glycine, Miscellaneous (%)	2	2	2.465	0.1626						
127.00	Histidine, Post-col Ninhydry Der (%)	9	9	0.6256	0.0284	0.6256	0.0322	0.0134	5.15%	0.0152	4.29%
127.05	Histidine, Pre-col AQC Der (%)	8	8	0.6511	0.1413	0.6511	0.1602	0.0708	24.61%	0.0193	4.27%
127.02	Histidine, Post-col OPA Der (%)	2	2	0.5683	0.0117						
127.99	Histidine, Miscellaneous (%)	2	2	0.5750	0.0354						
128.00	Isoleucine, Post-col Ninhydry Der (%)	9	9	1.058	0.0490	1.061	0.0343	0.0143	3.23%	0.0350	3.96%
128.05	Isoleucine, Pre-col AQC Der (%)	8	8	1.053	0.0585	1.053	0.0662	0.0293	6.29%	0.0214	3.97%
128.02	Isoleucine, Post-col OPA Der (%)	2	2	0.9888	0.0265						
128.99	Isoleucine, Miscellaneous (%)	2	2	1.066	0.2882						
129.00	Leucine, Post-col Ninhydry Der (%)	9	9	1.980	0.0507	1.976	0.0487	0.0203	2.46%	0.0325	3.61%
129.05	Leucine, Pre-col AQC Der (%)	8	8	1.994	0.1275	1.979	0.1090	0.0482	5.51%	0.0434	3.61%
129.02	Leucine, Post-col OPA Der (%)	2	2	1.847	0.0315						
129.99	Leucine, Miscellaneous (%)	2	2	1.770	0.0354						
130.00	L-Lysine, Post-col Ninhydry Der (%)	11	11	1.561	0.0534	1.561	0.0605	0.0228	3.88%	0.0169	3.74%
130.05	L-Lysine, Pre-col AQC Der (%)	8	8	1.518	0.0793	1.519	0.0888	0.0392	5.85%	0.0221	3.76%
130.02	L-Lysine, Post-col OPA Der (%)	2	2	1.486	0.1078						
130.99	L-Lysine, Miscellaneous (%)	2	2	1.258	0.1237						
131.00	Methionine, PAO Post-col Ninhydry Der (%)	10	10	0.5210	0.0339	0.5168	0.0274	0.0108	5.30%	0.0098	4.42%
131.05	Methionine, PAO Pre-col AQC Der (%)	8	8	0.5273	0.0712	0.5305	0.0704	0.0311	13.27%	0.0153	4.40%
131.02	Methionine, PAO Post-col OPA Der (%)	3	3	0.4903	0.0170	0.4903	0.0170	0.0120	3.48%	0.0410	4.45%
131.99	Methionine, Miscellaneous (%)	1	1	0.5150							
132.00	Phenylalanine, Post-col Ninhydry Der (%)	9	8	1.166	0.0272	1.166	0.0308	0.0136	2.64%	0.0165	3.91%
132.05	Phenylalanine, Pre-col AQC Der (%)	8	8	1.156	0.0944	1.135	0.0513	0.0227	4.52%	0.0459	3.92%
132.02	Phenylalanine, Post-col OPA Der (%)	2	2	1.083	0.0046						
132.99	Phenylalanine, Miscellaneous (%)	2	2	0.9600	0.0636						
133.00	Proline, Post-col Ninhydry Der (%)	9	9	1.913	0.0895	1.920	0.0844	0.0352	4.39%	0.0379	3.63%
133.05	Proline, Pre-col AQC Der (%)	8	8	1.882	0.0624	1.882	0.0707	0.0312	3.76%	0.0357	3.64%

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133.99	Proline, Miscellaneous (%)	3	3	2.127	0.3018	2.127	0.3018	0.1743	14.19%	0.2133	3.57%
134.00	Serine, Post-col Ninhydrin Der (%)	9	9	1.260	0.0202	1.261	0.0216	0.0090	1.71%	0.0225	3.86%
134.05	Serine, Pre-col AQC Der (%)	8	8	1.274	0.0671	1.262	0.0416	0.0184	3.30%	0.0301	3.86%
134.02	Serine, Post-col OPA Der (%)	2	2	1.130	0.1206						
134.99	Serine, Miscellaneous (%)	2	2	1.215	0.0495						
135.00	Threonine, Post-col Ninhydrin Der (%)	9	9	1.043	0.0228	1.043	0.0258	0.0108	2.48%	0.0158	3.97%
135.05	Threonine, Pre-col AQC Der (%)	8	8	1.044	0.0611	1.029	0.0265	0.0117	2.57%	0.0253	3.98%
135.02	Threonine, Post-col OPA Der (%)	2	2	0.9690	0.0297						
135.99	Threonine, Miscellaneous (%)	2	2	0.8730	0.0325						
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	4	0.2799	0.0272	0.2799	0.0272	0.0136	9.71%	0.0013	4.84%
136.05	Tryptophan, Pre-col AQC Der (%)	4	4	0.2650	0.0445	0.2650	0.0445	0.0222	16.79%	0.0044	4.88%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.2768	0.0207	0.2768	0.0207	0.0147	7.49%		4.85%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	2	2	0.2133	0.0471						
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	1	1	0.2950							
136.99	Tryptophan, Miscellaneous (%)	1	1	0.2340							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	9	8	0.7858	0.1002	0.7858	0.1136	0.0502	14.45%	0.0139	4.15%
137.05	Tyrosine, Pre-col AQC Der (%)	8	8	0.7588	0.1204	0.7722	0.1034	0.0457	13.39%	0.0278	4.16%
137.02	Tyrosine, Post-col OPA Der (%)	2	2	0.7460	0.1428						
137.99	Tyrosine, Miscellaneous (%)	2	2	0.6758	0.0081						
138.00	Valine, Post-col Ninhydrin Der (%)	9	9	1.338	0.0858	1.356	0.0455	0.0190	3.36%	0.0299	3.82%
138.05	Valine, Pre-col AQC Der (%)	8	8	1.328	0.0579	1.328	0.0657	0.0290	4.95%	0.0265	3.83%
138.02	Valine, Post-col OPA Der (%)	2	2	1.317	0.1085						
138.99	Valine, Miscellaneous (%)	2	2	0.9550	0.2051						
139.05	Taurine, Pre-col AQC Der (%)	4	3	0.1936	0.0451	0.1936	0.0451	0.0319	23.31%		5.12%
139.02	Taurine, Post-col OPA Der (%)	2	2	0.2120	0.0113						
139.00	Taurine, Post-col Ninhydrin Der (%)	1	1	0.1950							
139.03	Taurine, Pre-col Dansyl Cl Der (%)	1	1	0.2150							
139.99	Taurine, Miscellaneous (%)	1	1	0.2500							
160.10	Fructose, HPAEC PAD (%)	1	1	0.0850							
160.99	Fructose, Miscellaneous (%)	1		0.1500							
161.10	Galactose, HPAEC PAD (%)	1	1	0.0500							
162.10	Glucose, HPAEC PAD (%)	1	1	0.0500							
162.99	Glucose, Miscellaneous (%)	1		0.1500							
163.99	Lactose, Miscellaneous (%)	1		0.1500							
164.10	Maltose, HPAEC PAD (%)	1	1	0.0800							
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.10	Sucrose, HPAEC PAD (%)	1	1	0.6400							
165.99	Sucrose, Miscellaneous (%)	1	1	0.7100							
166.10	Raffinose, HPAEC PAD (%)	1	1	0.1300							
167.10	Stachyose, HPAEC PAD (%)	1	1	0.0250							

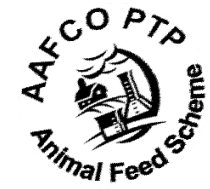
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400.01	Water Activity, Aqualab chilled mirror (Units)	13	13	0.3198	0.0308	0.3191	0.0333	0.0115	10.44%	0.0120	
400.99	Water Activity, Miscellaneous (Units)	4	3	0.3805	0.0354	0.3805	0.0354	0.0251	9.31%		
516.53	Arsenic, Total (As), ICP-MS, Microwave (ppm)	2	2	0.0827	0.0040						
516.00	Arsenic, Total (As), AA, Hydride (ppm)	1	1	0.0585							
516.43	Arsenic, Total (As), ICP, Microwave (ppm)	2	1	0.0685							
516.52	Arsenic, Total (As), ICP-MS, Open vessel (ppm)	2	1	0.0750							
516.99	Arsenic, Total (As), Miscellaneous (ppm)	1		0.0000							
518.43	Cadmium, ICP, Microwave (ppm)	3	2	0.0667	0.0490	0.0667	0.0490			0.0014	22.00%
518.53	Cadmium, ICP-MS, Microwave (ppm)	2	2	0.0400	0.0028						
518.34	Cadmium, AAS, Graphite furnace (ppm)	1	1	0.0280							
518.41	Cadmium, ICP, Dry ash (ppm)	1	1	0.0564							
518.52	Cadmium, ICP-MS, Open vessel (ppm)	1	1	0.0400							
518.99	Cadmium, Miscellaneous (ppm)	1		0.0000							
520.43	Chromium, Total (Cr), ICP, Microwave (ppm)	5	4	1.773	0.3168	1.773	0.3168	0.1584	17.87%	0.0250	14.68%
520.53	Chromium, Total (Cr), ICP-MS, Microwave (ppm)	2	2	1.443	0.2089						
520.41	Chromium, Total (Cr), ICP, Dry ash (ppm)	1	1	1.034							
520.42	Chromium, Total (Cr), ICP, Open vessel (ppm)	1	1	1.250							
520.51	Chromium, Total (Cr), ICP-MS, Dry ash (ppm)	1	1	0.4400							
520.52	Chromium, Total (Cr), ICP-MS, Open vessel (ppm)	1	1	0.8550							
526.43	Lead, ICP, Microwave (ppm)	3	2	0.2043	0.1468	0.2043	0.1468			0.0833	20.32%
526.53	Lead, ICP-MS, Microwave (ppm)	2	2	0.1398	0.0109						
526.34	Lead, AAS, Graphite furnace (ppm)	1	1	1.339							
526.41	Lead, ICP, Dry ash (ppm)	1	1	0.2058							
526.52	Lead, ICP-MS, Open vessel (ppm)	1		0.5000							
526.99	Lead, Miscellaneous (ppm)	1		0.0000							
529.99	Mercury, Miscellaneous (ppb)	6	3	1,395	2,412	1,395	2,412	1,741			15.22%
539.43	Nickel, ICP, Microwave (ppm)	2	2	2.567	2.210						
539.41	Nickel, ICP, Dry ash (ppm)	1	1	0.7637							
539.51	Nickel, ICP-MS, Dry ash (ppm)	1	1	0.6650							
539.53	Nickel, ICP-MS, Microwave (ppm)	1	1	0.8908							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	1	1	0.0065							
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	1	1	0.0727							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	1	1	2.712							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	1	1	0.5553							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	1	1	0.7518							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	1	1	4.134							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	2.939	0.3555	2.939	0.3555	0.2053	12.10%	0.0291	3.40%
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	2	2	1.803	1.955						
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	1	1	0.0175							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.0466							

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740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w	1	1	0.0045							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	1	1	0.0111							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.0050							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (%)	1	1	0.0103							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	1	1	0.0095							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (%)	1	1	0.0074							
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	0.4775	0.0318						
754.02	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Direct Methylation by Acid-f	1	1	0.4795							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	2	2	3.223	0.2440						
756.02	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Direct Methylation by Acid-f	1	1	3.152							
758.02	Total Saturated Fatty Acids, Direct Methylation by Acid-Alkali Hydrolysis & GC	1	1	4.598							
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	4.310							
762.02	Total Monounsaturated Fatty Acids, Direct Methylation by Acid-Alkali Hydrolysi	1	1	6.146							
766.02	Total Polyunsaturated Fatty Acids, Direct Methylation by Acid-Alkali Hydrolysis	1	1	3.782							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	1	1	11.37							

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: 126

Dry Dog Feed

Method Precision Report

Labs Reporting: 180

Test Material Code # 202622

Issue Date : 03/31/2026

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	70	65	5.606	0.2136	0.1886	0.0676	0.2003	3.36%	1.20%	3.57%	2.962
001.99	Loss on Drying, Miscellaneous (%)	12	11	5.104	1.146	0.4012	0.1507	0.4286	7.41%	2.78%	7.92%	2.843
002.01	Protein, Crude, Auto Kjehl-Foss (%)	19	18	28.00	0.3581	0.3340	0.1052	0.3502	1.19%	0.38%	1.25%	3.328
002.05	Protein, Crude, Copper, Boric Acid (%)	13	13	27.98	0.2115	0.1920	0.1255	0.2293	0.69%	0.45%	0.82%	1.827
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	131	124	28.36	0.4367	0.2895	0.1766	0.3392	1.02%	0.62%	1.20%	1.920
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	6	5	10.55	4.618	1.391	0.0963	1.394	11.25%	0.78%	11.28%	14.48
003.06	Fat, Crude, Pet Ether (%)	13	11	11.76	0.2405	0.2123	0.1707	0.2724	1.80%	1.45%	2.31%	1.596
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	8	7	12.22	1.508	0.2991	0.0726	0.3078	2.56%	0.62%	2.63%	4.241
003.10	Fat, Crude, Randall, Pet Ether (%)	24	22	11.83	0.2766	0.2294	0.0936	0.2477	1.94%	0.79%	2.10%	2.647
003.14	Fat, Crude, Ankom (%)	38	33	12.14	1.072	0.3614	0.1478	0.3904	3.05%	1.25%	3.30%	2.642
004.00	Fiber, Crude, Asbestos Free (%)	7	6	2.060	0.8965	0.3036	0.1229	0.3275	17.46%	7.07%	18.83%	2.665
004.06	Fiber, Crude, Fibertec (%)	15	14	2.271	0.3567	0.3505	0.0935	0.3628	15.43%	4.12%	15.97%	3.880
004.07	Fiber, Crude, ANKOM (%)	69	63	2.166	0.4421	0.3309	0.1089	0.3484	15.72%	5.17%	16.55%	3.199
005.00	Ash, 2h @ 600°C (%)	93	79	7.569	0.1381	0.1019	0.0395	0.1093	1.34%	0.52%	1.44%	2.768
005.03	Ash, Microwave furnace (%)	9	8	7.685	0.0661	0.0533	0.0206	0.0572	0.70%	0.27%	0.75%	2.773
005.05	Ash, 3h @ 550°C (%)	22	20	7.593	0.1536	0.1225	0.0424	0.1297	1.61%	0.56%	1.71%	3.056
008.02	Fiber, Acid Detergent, Crucible (%)	6	6	3.364	0.7663	0.7519	0.2092	0.7805	22.35%	6.22%	23.20%	3.730
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	30	27	4.228	1.606	1.387	0.1788	1.399	33.54%	4.32%	33.82%	7.822
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	5	5	9.843	1.632	1.566	0.6494	1.695	15.91%	6.60%	17.23%	2.611
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	26	25	13.02	2.977	2.959	0.4528	2.994	22.74%	3.48%	23.00%	6.611
010.99	Moisture, Miscellaneous (%)	19	18	5.558	0.3971	0.3819	0.1433	0.4079	6.84%	2.57%	7.31%	2.847
011.01	Loss on Drying, HT, 135°C 2hr (%)	62	59	6.025	0.3902	0.3893	0.0831	0.3981	6.47%	1.38%	6.61%	4.793
012.00	Starch, Polarimetric (Ewers) (%)	8	8	34.01	0.8234	0.8123	0.1902	0.8343	2.39%	0.56%	2.45%	4.386
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	6	6	32.92	1.225	1.006	0.9884	1.410	3.05%	3.00%	4.28%	1.427
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	9	9	32.57	2.056	1.950	0.9203	2.156	5.99%	2.83%	6.62%	2.343
013.00	Fat, Pretreat, Acid hydrolysis (%)	26	24	15.38	0.3916	0.3418	0.2937	0.4507	2.22%	1.91%	2.93%	1.534
013.02	Fat, Pretreat, Mojonier, Bak Ext, Acid hydrolysis (%)	47	46	15.78	0.7045	0.5040	0.2493	0.5623	3.18%	1.57%	3.55%	2.256
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	8	7	15.00	0.5032	0.3197	0.1401	0.3491	2.11%	0.93%	2.31%	2.491

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
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	25	24	15.26	0.5952	0.5963	0.1608	0.6176	3.91%	1.05%	4.05%	3.840
015.43	Aluminum, ICP, Microwave (ppm)	5	5	74.62	14.47	14.14	4.326	14.78	18.95%	5.80%	19.81%	3.418
019.08	Calcium, EDTA (%)	9	8	1.795	0.1083	0.1140	0.0232	0.1163	6.36%	1.29%	6.49%	5.017
019.31	Calcium, AAS, Dry ash (%)	12	10	1.764	0.0660	0.0402	0.0108	0.0416	2.26%	0.61%	2.34%	3.856
019.41	Calcium, ICP, Dry ash (%)	17	17	1.753	0.0559	0.0510	0.0323	0.0604	2.91%	1.84%	3.45%	1.869
019.42	Calcium, ICP, Open vessel (%)	14	13	1.787	0.0918	0.0758	0.0656	0.1002	4.26%	3.69%	5.64%	1.529
019.43	Calcium, ICP, Microwave (%)	44	41	1.765	0.3480	0.0638	0.0463	0.0788	3.64%	2.64%	4.50%	1.702
019.44	Calcium, ICP, Dry ash (%)	22	20	1.737	0.0513	0.0479	0.0168	0.0508	2.75%	0.97%	2.92%	3.021
019.99	Calcium, Miscellaneous (%)	7	7	1.646	0.1360	0.1352	0.0209	0.1368	8.21%	1.27%	8.31%	6.552
021.43	Cobalt, ICP, Microwave (ppm)	6	5	1.396	0.2758	0.1670	0.0507	0.1745	12.82%	3.89%	13.40%	3.442
022.31	Copper, AAS, Dry ash (ppm)	7	6	11.83	1.170	1.141	0.2009	1.158	9.81%	1.73%	9.96%	5.764
022.41	Copper, ICP, Dry ash (ppm)	11	10	11.36	1.901	1.069	0.9136	1.407	9.80%	8.37%	12.89%	1.540
022.42	Copper, ICP, Open vessel (ppm)	15	14	12.51	1.660	0.8793	0.4589	0.9919	7.24%	3.78%	8.16%	2.161
022.43	Copper, ICP, Microwave (ppm)	41	38	11.85	1.433	0.9731	0.3149	1.023	8.08%	2.62%	8.49%	3.248
022.44	Copper, ICP, Dry ash (ppm)	22	20	10.47	0.6623	0.4818	0.3223	0.5797	4.64%	3.10%	5.58%	1.799
022.99	Copper, Miscellaneous (ppm)	5	5	12.10	2.921	2.897	0.5292	2.944	23.94%	4.37%	24.33%	5.565
025.31	Iron, AAS, Dry ash (ppm)	9	7	153.7	15.88	16.17	0.8760	16.19	10.39%	0.56%	10.41%	18.49
025.41	Iron, ICP, Dry ash (ppm)	13	11	151.7	12.52	8.877	4.052	9.758	5.76%	2.63%	6.34%	2.408
025.42	Iron, ICP, Open vessel (ppm)	14	12	155.8	11.60	8.527	2.638	8.926	5.40%	1.67%	5.65%	3.384
025.43	Iron, ICP, Microwave (ppm)	27	24	164.7	12.30	12.42	2.735	12.72	7.54%	1.66%	7.72%	4.650
027.31	Magnesium, AAS, Dry ash (%)	10	8	0.1118	0.0153	0.0037	0.0035	0.0050	3.13%	2.96%	4.31%	1.455
027.41	Magnesium, ICP, Dry ash (%)	13	11	0.1151	0.0052	0.0053	0.0010	0.0054	4.62%	0.89%	4.71%	5.304
027.42	Magnesium, ICP, Open vessel (%)	14	13	0.1182	0.0071	0.0020	0.0064	0.0067	1.66%	5.37%	5.62%	1.047
027.43	Magnesium, ICP, Microwave (%)	43	39	0.1186	0.0187	0.0046	0.0020	0.0050	3.99%	1.75%	4.36%	2.488
027.44	Magnesium, ICP, Dry ash (%)	21	18	0.1140	0.0036	0.0028	0.0011	0.0030	2.48%	0.93%	2.65%	2.856
028.31	Manganese, AAS, Dry ash (ppm)	9	8	24.95	1.541	1.633	0.3112	1.662	6.55%	1.25%	6.66%	5.342
028.41	Manganese, ICP, Dry ash (ppm)	11	10	24.87	1.933	1.916	0.8486	2.096	7.73%	3.43%	8.46%	2.470
028.42	Manganese, ICP, Open vessel (ppm)	15	15	26.26	2.211	1.845	1.724	2.525	7.03%	6.57%	9.62%	1.464
028.43	Manganese, ICP, Microwave (ppm)	41	38	25.96	1.596	1.299	1.029	1.657	5.03%	3.98%	6.42%	1.610
028.44	Manganese, ICP, Dry ash (ppm)	22	20	24.86	1.389	0.7099	0.6343	0.9520	2.83%	2.53%	3.79%	1.501
031.01	Phosphorus, Photometric (%)	22	18	1.071	0.0450	0.0205	0.0185	0.0277	1.91%	1.72%	2.57%	1.493
031.41	Phosphorus, ICP, Dry ash (%)	16	14	1.086	0.0585	0.0413	0.0197	0.0458	3.82%	1.82%	4.23%	2.322
031.42	Phosphorus, ICP, Open vessel (%)	14	13	1.066	0.0432	0.0360	0.0348	0.0501	3.36%	3.26%	4.68%	1.437
031.43	Phosphorus, ICP, Microwave (%)	46	44	1.073	0.1152	0.0498	0.0229	0.0548	4.58%	2.10%	5.04%	2.395
031.44	Phosphorus, ICP, Dry ash (%)	23	21	1.051	0.0339	0.0309	0.0145	0.0342	2.94%	1.39%	3.25%	2.350
031.99	Phosphorus, Miscellaneous (%)	6	6	0.9774	0.1243	0.1239	0.0146	0.1248	12.68%	1.50%	12.77%	8.527
032.31	Potassium, AAS, Dry ash (%)	9	6	0.6444	0.1343	0.0521	0.0035	0.0522	7.66%	0.51%	7.68%	15.10
032.41	Potassium, ICP, Dry ash (%)	15	14	0.6997	0.0399	0.0400	0.0129	0.0420	5.70%	1.83%	5.99%	3.264

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
032.42	Potassium, ICP, Open vessel (%)	14	12	0.7324	0.0306	0.0228	0.0254	0.0341	3.13%	3.48%	4.68%	1.344
032.43	Potassium, ICP, Microwave (%)	42	39	0.7083	0.0453	0.0241	0.0129	0.0274	3.40%	1.83%	3.86%	2.115
032.44	Potassium, ICP, Dry ash (%)	21	18	0.7001	0.0279	0.0222	0.0063	0.0231	3.15%	0.90%	3.28%	3.662
032.99	Potassium, Miscellaneous (%)	5	5	0.7196	0.0486	0.0477	0.0128	0.0494	6.63%	1.78%	6.87%	3.853
033.00	Salt as chloride, Sol Cl (%)	9	8	1.144	0.0543	0.0524	0.0208	0.0563	4.60%	1.82%	4.95%	2.713
033.01	Salt as chloride, Poten Cl (%)	18	17	1.215	0.0247	0.0171	0.0121	0.0209	1.41%	1.00%	1.73%	1.731
033.99	Salt, Miscellaneous (%)	10	8	1.039	0.2778	0.1439	0.0156	0.1448	13.05%	1.41%	13.13%	9.285
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	8	8	0.7044	0.1318	0.1293	0.0359	0.1342	18.35%	5.10%	19.05%	3.735
035.31	Sodium, AAS, Dry ash (%)	9	7	0.3171	0.0793	0.0282	0.0017	0.0283	8.23%	0.49%	8.24%	16.93
035.41	Sodium, ICP, Dry ash (%)	36	32	0.3434	0.0131	0.0111	0.0054	0.0123	3.23%	1.57%	3.60%	2.284
035.42	Sodium, ICP, Open vessel (%)	13	10	0.3542	0.0121	0.0067	0.0050	0.0084	1.91%	1.41%	2.38%	1.681
035.43	Sodium, ICP, Microwave (%)	40	37	0.3499	0.0155	0.0128	0.0051	0.0138	3.66%	1.48%	3.95%	2.677
035.99	Sodium, Miscellaneous (%)	5	5	0.3520	0.0407	0.0391	0.0161	0.0423	11.10%	4.58%	12.01%	2.622
036.42	Sulfur, ICP, Open vessel (%)	16	15	0.4118	0.0253	0.0245	0.0087	0.0260	5.95%	2.11%	6.32%	2.992
036.43	Sulfur, ICP, Microwave (%)	15	15	0.4310	0.0334	0.0331	0.0059	0.0336	7.68%	1.38%	7.80%	5.651
037.31	Zinc, AAS, Dry ash (ppm)	8	8	189.9	10.91	10.82	2.045	11.01	5.70%	1.08%	5.80%	5.381
037.41	Zinc, ICP, Dry ash (ppm)	15	14	183.3	10.47	10.19	4.283	11.06	5.58%	2.34%	6.05%	2.581
037.42	Zinc, ICP, Open vessel (ppm)	15	14	194.1	15.95	14.66	5.471	15.65	7.49%	2.79%	7.99%	2.860
037.43	Zinc, ICP, Microwave (ppm)	45	41	193.1	11.95	7.700	3.719	8.551	3.95%	1.91%	4.38%	2.299
037.44	Zinc, ICP, Dry ash (ppm)	19	17	179.8	9.294	4.259	3.555	5.548	2.34%	1.95%	3.05%	1.560
037.99	Zinc, Miscellaneous (ppm)	5	5	199.0	26.49	26.45	2.145	26.54	13.29%	1.08%	13.33%	12.37
042.00	Chloride, Titrimetric (%)	7	6	0.7278	0.0130	0.0113	0.0092	0.0145	1.55%	1.26%	2.00%	1.584
106.02	Vitamin A, LC (KU / kg)	10	8	1,816	5,407	1,413	0.9348	1,694	10.29%	6.81%	12.34%	1.812
108.02	Vitamin D3, LC (KU / kg)	8	8	1.385	0.2614	0.2506	0.1050	0.2717	18.10%	7.58%	19.62%	2.588
109.02	Vitamin E, LC (IU / kg)	14	11	164.2	41.83	27.01	5.761	27.62	17.26%	3.68%	17.65%	4.794
120.00	Alanine, Post-col Ninhydrin Der (%)	9	8	1.686	0.0301	0.0315	0.0096	0.0329	1.86%	0.57%	1.95%	3.442
120.05	Alanine, Pre-col AQC Der (%)	8	7	1.688	0.0770	0.0685	0.0153	0.0702	4.02%	0.90%	4.12%	4.578
121.00	Arginine, Post-col Ninhydrin Der (%)	9	8	1.799	0.1000	0.0566	0.0258	0.0622	3.10%	1.41%	3.40%	2.410
121.05	Arginine, Pre-col AQC Der (%)	8	7	1.819	0.1466	0.0695	0.0485	0.0847	3.92%	2.74%	4.78%	1.746
122.00	Aspartic, Post-col Ninhydrin Der (%)	9	9	2.171	0.0590	0.0569	0.0220	0.0610	2.62%	1.01%	2.81%	2.776
122.05	Aspartic, Pre-col AQC Der (%)	8	8	2.170	0.0686	0.0673	0.0185	0.0698	3.10%	0.85%	3.22%	3.771
124.00	Cysteine/Cystine, PAO Post-col Ninhydry (%)	9	9	0.4171	0.0211	0.0201	0.0091	0.0220	4.81%	2.17%	5.28%	2.431
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	8	0.4254	0.0635	0.0633	0.0075	0.0637	14.88%	1.77%	14.98%	8.453
125.00	Glutamic, Post-col Ninhydrin Der (%)	9	9	4.095	0.0981	0.0907	0.0526	0.1049	2.22%	1.29%	2.56%	1.993
125.05	Glutamic, Pre-col AQC Der (%)	8	8	4.152	0.1308	0.1295	0.0263	0.1321	3.12%	0.63%	3.18%	5.016
126.00	Glycine, Post-col Ninhydrin Der (%)	9	8	2.312	0.0766	0.0805	0.0142	0.0817	3.48%	0.61%	3.53%	5.745
126.05	Glycine, Pre-col AQC Der (%)	8	8	2.277	0.1323	0.1263	0.0557	0.1381	5.55%	2.45%	6.06%	2.478
127.00	Histidine, Post-col Ninhydrin Der (%)	9	8	0.6256	0.0284	0.0273	0.0086	0.0286	4.38%	1.38%	4.60%	3.328

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Issue Date : 03/31/2026

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 %rstd	Reproducibility %RSD	sR/sr
127.05	Histidine, Pre-col AQC Der (%)	8	8	0.6511	0.1413	0.1409	0.0136	0.1416	21.65%	2.09%	21.75%	10.39
128.00	Isoleucine, Post-col Ninhydrin Der (%)	9	9	1.058	0.0490	0.0439	0.0306	0.0535	4.15%	2.89%	5.06%	1.749
128.05	Isoleucine, Pre-col AQC Der (%)	8	8	1.053	0.0585	0.0575	0.0154	0.0595	5.46%	1.46%	5.65%	3.869
129.00	Leucine, Post-col Ninhydrin Der (%)	9	9	1.980	0.0507	0.0463	0.0294	0.0548	2.34%	1.49%	2.77%	1.864
129.05	Leucine, Pre-col AQC Der (%)	8	6	1.994	0.1275	0.0813	0.0183	0.0833	4.16%	0.94%	4.27%	4.547
130.00	L-Lysine, Post-col Ninhydrin Der (%)	11	11	1.561	0.0534	0.0521	0.0162	0.0546	3.34%	1.04%	3.50%	3.367
130.05	L-Lysine, Pre-col AQC Der (%)	8	8	1.518	0.0793	0.0783	0.0173	0.0802	5.16%	1.14%	5.28%	4.629
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	10	8	0.5210	0.0339	0.0139	0.0058	0.0150	2.73%	1.14%	2.96%	2.591
131.05	Methionine, PAO Pre-col AQC Der (%)	8	8	0.5273	0.0712	0.0708	0.0095	0.0715	13.43%	1.81%	13.56%	7.498
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	9	8	1.166	0.0272	0.0255	0.0131	0.0287	2.19%	1.13%	2.46%	2.186
132.05	Phenylalanine, Pre-col AQC Der (%)	8	7	1.156	0.0944	0.0314	0.0235	0.0392	2.79%	2.09%	3.49%	1.666
133.00	Proline, Post-col Ninhydrin Der (%)	9	9	1.913	0.0895	0.0858	0.0360	0.0930	4.48%	1.88%	4.86%	2.586
133.05	Proline, Pre-col AQC Der (%)	8	8	1.882	0.0624	0.0590	0.0284	0.0655	3.14%	1.51%	3.48%	2.306
134.00	Serine, Post-col Ninhydrin Der (%)	9	9	1.260	0.0202	0.0153	0.0187	0.0241	1.22%	1.48%	1.92%	1.294
134.05	Serine, Pre-col AQC Der (%)	8	6	1.274	0.0671	0.0320	0.0098	0.0334	2.56%	0.79%	2.67%	3.399
135.00	Threonine, Post-col Ninhydrin Der (%)	9	9	1.043	0.0228	0.0203	0.0146	0.0250	1.95%	1.40%	2.40%	1.711
135.05	Threonine, Pre-col AQC Der (%)	8	6	1.044	0.0611	0.0193	0.0047	0.0199	1.89%	0.46%	1.94%	4.264
137.00	Tyrosine, Post-col Ninhydrin Der (%)	9	8	0.7858	0.1002	0.0999	0.0109	0.1004	12.71%	1.39%	12.78%	9.214
137.05	Tyrosine, Pre-col AQC Der (%)	8	7	0.7588	0.1204	0.0700	0.0211	0.0731	8.81%	2.66%	9.20%	3.458
138.00	Valine, Post-col Ninhydrin Der (%)	9	8	1.338	0.0858	0.0266	0.0284	0.0389	1.95%	2.08%	2.85%	1.370
138.05	Valine, Pre-col AQC Der (%)	8	7	1.328	0.0579	0.0521	0.0104	0.0531	3.96%	0.79%	4.04%	5.097
400.01	Water Activity, Aqualab chilled mirror (Units)	13	13	0.3198	0.0308	0.0299	0.0105	0.0317	9.34%	3.28%	9.90%	3.023

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