



AAFCO
Association of American Feed Control Officials



Animal Feed Scheme
Poultry Feed, Medicated
Test Material Code # 202528

Method Summary Report
(Precision Report Follows)

Labs Reporting: 158
Methods Reported: 365
Issue Date : 09/30/2025

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
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	43	41	8.792	0.2156	8.794	0.2123	0.0415	2.41%	0.0920	2.88%
001.99	Loss on Drying, Miscellaneous (%)	16	16	8.633	0.3714	8.634	0.4100	0.1281	4.75%	0.0520	2.89%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	8.916	0.3145	8.916	0.3145	0.2224	3.53%	0.0987	2.88%
001.03	Loss on Drying, Low temp. methods (%)	2	2	8.848	0.0318						
001.05	Loss on Drying, LECO (%)	1	1	8.760							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	112	108	16.54	0.2280	16.53	0.2207	0.0265	1.33%	0.1437	2.46%
002.05	Protein, Crude, Copper, Boric Acid (%)	21	20	16.47	0.4084	16.43	0.2584	0.0722	1.57%	0.0806	2.47%
002.01	Protein, Crude, Auto Kjell-Foss (%)	18	17	16.36	0.1663	16.35	0.1805	0.0547	1.10%	0.0521	2.47%
002.11	Protein, Crude, NIR (%)	8	7	16.39	0.4989	16.39	0.5658	0.2673	3.45%	0.0667	2.47%
002.08	Protein, Crude, Cu/Ti (%)	2	2	16.21	0.0161						
002.00	Protein, Crude, Crude (%)	1	1	15.47							
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	1	1	16.28							
002.04	Protein, Crude, Copper Catalyst (%)	1	1	16.39							
003.14	Fat, Crude, Ankom (%)	56	54	2.788	0.4284	2.744	0.2705	0.0460	9.86%	0.0643	3.44%
003.10	Fat, Crude, Randall, Pet Ether (%)	28	27	2.605	0.2015	2.592	0.1902	0.0458	7.34%	0.0792	3.47%
003.06	Fat, Crude, Pet Ether (%)	18	17	2.747	0.2115	2.743	0.2315	0.0702	8.44%	0.0870	3.44%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	10	10	2.742	0.2803	2.760	0.2754	0.1089	9.98%	0.0842	3.43%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	9	9	2.850	0.1319	2.841	0.1159	0.0483	4.08%	0.0940	3.42%
003.11	Fat, Crude, NIR (%)	7	7	3.007	0.5162	2.977	0.5141	0.2429	17.27%	0.0550	3.39%
003.12	Fat, Crude, Hexane Ext (%)	5	5	2.799	0.2168	2.799	0.2168	0.0970	7.75%	0.1125	3.43%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	4	4	2.959	0.7564	2.959	0.7564	0.3782	25.56%	0.0813	3.40%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	3	3	2.788	0.1615	2.788	0.1615	0.0932	5.79%	0.1685	3.43%
003.99	Fat, Crude, Miscellaneous (%)	2	2	5.215	3.323						
004.07	Fiber, Crude, ANKOM (%)	74	72	4.840	0.8966	4.768	0.7669	0.1130	16.08%	0.1972	3.16%
004.06	Fiber, Crude, Fibertec (%)	16	16	4.400	0.4009	4.368	0.3766	0.1177	8.62%	0.1971	3.20%
004.00	Fiber, Crude, Asbestos Free (%)	7	6	4.572	0.6498	4.409	0.3171	0.1618	7.19%	0.0903	3.20%
004.11	Fiber, Crude, NIR (%)	6	6	5.047	0.4989	5.047	0.5657	0.2887	11.21%	0.1350	3.13%
004.03	Fiber, Crude, Fritted Glass (%)	3	3	4.750	0.1428	4.750	0.1428	0.0824	3.01%	0.1708	3.16%
004.99	Fiber, Crude, Miscellaneous (%)	1	1	4.284							

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005.00	Ash, 2h @ 600°C (%)	94	93	11.56	0.7910	11.69	0.5609	0.0727	4.80%	0.1717	2.76%
005.05	Ash, 3h @ 550°C (%)	25	24	12.13	0.5829	12.23	0.3602	0.0919	2.94%	0.0688	2.74%
005.11	Ash, NIR (%)	7	7	8.769	2.025	8.695	2.125	1.004	24.43%	0.1117	2.89%
005.99	Ash, Miscellaneous (%)	6	6	12.45	0.3951	12.42	0.3951	0.2016	3.18%	0.1000	2.74%
005.02	Ash, LECO (%)	1	1	12.40							
005.03	Ash, Microwave furnace (%)	1	1	11.55							
006.99	Total Sugars, Miscellaneous (%)	7	7	5.912	2.275	5.407	1.240	0.5860	22.94%	0.2237	3.10%
006.00	Total Sugars, As sucrose (%)	3	3	4.872	0.6882	4.872	0.6882	0.3973	14.12%	0.1653	3.15%
006.03	Total Sugars, Invert w/o Invsrn (%)	1	1	4.815							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	46	44	5.759	0.4386	5.767	0.4077	0.0768	7.07%	0.1874	3.07%
008.02	Fiber, Acid Detergent, Crucible (%)	13	13	5.997	0.4050	5.956	0.3503	0.1215	5.88%	0.0884	3.06%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	2	2	7.018	0.3995						
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	45	44	16.95	0.9703	16.95	1.094	0.2061	6.45%	0.2843	2.43%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	11	17.54	1.511	17.57	1.439	0.5425	8.19%	0.2701	2.39%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	2	2	17.21	0.5480						
010.99	Moisture, Miscellaneous (%)	16	15	8.857	0.5773	8.851	0.3242	0.1046	3.66%	0.0800	2.88%
010.11	Moisture, NIR (%)	6	6	9.404	0.2308	9.404	0.2617	0.1336	2.78%	0.0713	2.85%
010.03	Moisture, Karl-Fischer (%)	2	2	9.618	1.354						
011.01	Loss on Drying, HT, 135°C 2hr (%)	61	58	9.467	0.5839	9.537	0.3769	0.0619	3.95%	0.0952	2.85%
011.99	Loss on Drying, HT, High Temp. Methods Miscellaneous (%)	4	4	9.212	0.5987	9.212	0.5987	0.2993	6.50%	0.1518	2.86%
011.02	Loss on Drying, HT, 130°C for 2 hours (%)	2	2	8.878	0.3217						
012.00	Starch, Polarimetric (Ewers) (%)	16	16	31.57	0.8959	31.62	0.8051	0.2516	2.55%	0.2508	1.78%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	10	10	29.42	1.307	29.55	1.148	0.4538	3.89%	1.393	1.84%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	9	9	30.03	1.029	30.02	1.167	0.4863	3.89%	0.8730	1.82%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	3	3	30.16	0.8784	30.16	0.8784	0.5071	2.91%	0.0487	1.82%
012.11	Starch, NIR (%)	2	2	33.95	2.196						
012.99	Starch, Miscellaneous (%)	2	2	26.57	3.222						
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	29.60							
013.00	Fat, Pretreat, Acid hydrolysis (%)	18	18	3.774	0.3756	3.771	0.4195	0.1236	11.12%	0.1544	3.28%
013.02	Fat, Pretreat, Mojonier, Bak Ext, Acid hydrolysis (%)	14	14	4.202	0.4724	4.175	0.4711	0.1574	11.28%	0.2047	3.23%
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	8	8	3.301	0.3877	3.301	0.4397	0.1943	13.32%	0.1369	3.34%
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	8	8	3.609	0.4664	3.609	0.5288	0.2337	14.65%	0.5671	3.30%
013.99	Fat, Pretreat, Miscellaneous (%)	1	1	2.840							
014.01	Fiber, Total Dietary, Enz-Grav (%)	1	1	21.22							
014.02	Fiber, Total Dietary, ANKOM Enz-Grav (%)	1	1	22.65							
014.99	Fiber, Total Dietary, Miscellaneous (%)	1	1	20.09							
015.43	Aluminum, ICP, Microwave (ppm)	7	7	180.0	17.46	180.0	19.80	9.354	11.00%	4.360	7.32%
015.41	Aluminum, ICP, Dry ash (ppm)	4	4	150.3	32.92	150.3	32.92	16.46	21.90%	3.765	7.52%
015.42	Aluminum, ICP, Open vessel (ppm)	2	2	83.70	6.647						
015.53	Aluminum, ICP-MS, Microwave (ppm)	2	2	177.6	2.003						

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015.99	Aluminum, Miscellaneous (ppm)	1	1	106.5							
017.41	Boron, ICP, Dry ash (ppm)	5	5	7.425	0.6015	7.425	0.6015	0.2690	8.10%	0.2738	11.83%
017.43	Boron, ICP, Microwave (ppm)	6	5	7.705	0.4009	7.705	0.4009	0.0475	5.20%	0.1594	11.76%
017.42	Boron, ICP, Open vessel (ppm)	4	4	7.648	0.8338	7.648	0.8338	0.4169	10.90%	0.3800	11.78%
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	7.905							
017.99	Boron, Miscellaneous (ppm)	1	1	6.950							
019.43	Calcium, ICP, Microwave (%)	35	34	3.439	0.1177	3.439	0.1213	0.0260	3.53%	0.0878	3.32%
019.41	Calcium, ICP, Dry ash (%)	19	19	3.371	0.1305	3.367	0.1378	0.0395	4.09%	0.0854	3.33%
019.42	Calcium, ICP, Open vessel (%)	19	19	3.475	0.3087	3.515	0.2208	0.0633	6.28%	0.1013	3.31%
019.31	Calcium, AAS, Dry ash (%)	15	14	3.465	0.1423	3.463	0.1553	0.0519	4.48%	0.0570	3.32%
019.08	Calcium, EDTA (%)	9	9	3.467	0.1319	3.472	0.1384	0.0577	3.99%	0.1073	3.32%
019.00	Calcium, Ox-Mn04 Vol. (%)	6	6	3.571	0.4382	3.571	0.4969	0.2536	13.92%	0.0506	3.30%
019.99	Calcium, Miscellaneous (%)	5	5	3.493	0.1812	3.493	0.1812	0.0810	5.19%	0.0940	3.31%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	3.220	0.3155	3.220	0.3155	0.1577	9.80%	0.1115	3.35%
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	3.503	0.1581	3.503	0.1581	0.0913	4.51%	0.2216	3.31%
019.44	Calcium, ICP, Dry ash (%)	2	2	3.330	0.2475						
019.09	Calcium, Ion-selective electrode (%)	1	1	3.253							
019.32	Calcium, AAS, Open vessel (%)	1	1	3.505							
019.33	Calcium, AAS, Microwave (%)	1	1	3.610							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	3.520							
021.43	Cobalt, ICP, Microwave (ppm)	13	12	1.415	0.3347	1.440	0.3186	0.1149	22.13%	0.0849	15.14%
021.53	Cobalt, ICP-MS, Microwave (ppm)	5	4	1.509	0.0381	1.509	0.0381	0.0191	2.53%	0.0334	15.04%
021.41	Cobalt, ICP, Dry ash (ppm)	3	3	1.343	0.2817	1.343	0.2817	0.1626	20.97%	0.2023	15.30%
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	1.003	0.1453						
021.52	Cobalt, ICP-MS, Open vessel (ppm)	2	2	0.7428	0.0676						
021.31	Cobalt, AAS, Dry ash (ppm)	1	1	1.460							
021.99	Cobalt, Miscellaneous (ppm)	1	1	0.8300							
022.43	Copper, ICP, Microwave (ppm)	29	28	14.95	1.792	15.05	1.071	0.2529	7.11%	0.5285	10.64%
022.42	Copper, ICP, Open vessel (ppm)	19	19	15.76	2.479	15.75	1.863	0.5344	11.83%	0.8572	10.56%
022.41	Copper, ICP, Dry ash (ppm)	13	13	15.95	2.775	15.54	1.901	0.6592	12.24%	0.6460	10.59%
022.31	Copper, AAS, Dry ash (ppm)	9	9	14.99	1.800	14.99	2.041	0.8505	13.62%	0.8493	10.64%
022.53	Copper, ICP-MS, Microwave (ppm)	5	4	14.68	0.4823	14.68	0.4823	0.2411	3.29%	1.003	10.68%
022.99	Copper, Miscellaneous (ppm)	4	4	14.26	2.566	14.26	2.566	1.283	18.00%	0.8975	10.72%
022.44	Copper, ICP, Dry ash (ppm)	3	3	15.13	1.214	15.13	1.214	0.7011	8.03%	0.3967	10.63%
022.52	Copper, ICP-MS, Open vessel (ppm)	2	2	16.48	1.397						
022.32	Copper, AAS, Open vessel (ppm)	1	1	17.20							
022.33	Copper, AAS, Microwave (ppm)	1	1	16.35							
024.52	Iodine, ICP-MS, Open vessel (ppm)	1	1	1.488							
025.43	Iron, ICP, Microwave (ppm)	32	31	296.4	25.27	298.4	23.37	5.246	7.83%	6.431	6.79%
025.42	Iron, ICP, Open vessel (ppm)	18	17	269.2	24.05	271.0	23.22	7.038	8.57%	11.90	6.88%

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025.41	Iron, ICP, Dry ash (ppm)	16	16	293.7	22.01	295.1	17.31	5.408	5.87%	9.635	6.80%
025.31	Iron, AAS, Dry ash (ppm)	9	8	299.0	92.22	297.0	100.3	44.32	33.76%	9.425	6.79%
025.53	Iron, ICP-MS, Microwave (ppm)	5	4	293.1	15.41	293.1	15.41	7.707	5.26%	6.411	6.80%
025.99	Iron, Miscellaneous (ppm)	3	3	270.8	16.23	270.8	16.23	9.372	6.00%	7.767	6.89%
025.33	Iron, AAS, Microwave (ppm)	2	2	261.4	5.604						
025.52	Iron, ICP-MS, Open vessel (ppm)	2	2	234.0	10.23						
027.43	Magnesium, ICP, Microwave (%)	31	31	0.2754	0.0212	0.2765	0.0180	0.0040	6.50%	0.0097	4.85%
027.42	Magnesium, ICP, Open vessel (%)	20	20	0.2770	0.0229	0.2799	0.0175	0.0049	6.26%	0.0090	4.84%
027.41	Magnesium, ICP, Dry ash (%)	15	15	0.2741	0.0125	0.2744	0.0133	0.0043	4.84%	0.0068	4.86%
027.31	Magnesium, AAS, Dry ash (%)	9	8	0.2663	0.0247	0.2715	0.0135	0.0060	4.99%	0.0054	4.87%
027.53	Magnesium, ICP-MS, Microwave (%)	5	5	0.2725	0.0162	0.2725	0.0162	0.0072	5.93%	0.0114	4.86%
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.2573	0.0453	0.2573	0.0453	0.0262	17.62%	0.0147	4.91%
027.99	Magnesium, Miscellaneous (%)	4	3	0.2750	0.0000	0.2750	0.0000			0.0100	4.86%
027.44	Magnesium, ICP, Dry ash (%)	2	2	0.2663	0.0159						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.2550							
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.2900							
028.43	Manganese, ICP, Microwave (ppm)	31	30	111.5	7.495	111.3	7.322	1.671	6.58%	3.117	7.87%
028.42	Manganese, ICP, Open vessel (ppm)	19	18	111.0	7.629	111.6	4.941	1.456	4.43%	3.205	7.87%
028.41	Manganese, ICP, Dry ash (ppm)	13	13	113.4	6.596	113.0	6.548	2.270	5.79%	4.982	7.85%
028.31	Manganese, AAS, Dry ash (ppm)	9	9	112.4	5.258	112.1	5.154	2.148	4.60%	2.379	7.86%
028.53	Manganese, ICP-MS, Microwave (ppm)	6	6	110.5	11.60	112.3	8.736	4.458	7.78%	4.255	7.86%
028.99	Manganese, Miscellaneous (ppm)	4	4	110.2	5.095	110.2	5.095	2.547	4.62%	4.178	7.88%
028.44	Manganese, ICP, Dry ash (ppm)	3	3	99.84	13.66	99.84	13.66	7.886	13.68%	3.237	8.00%
028.33	Manganese, AAS, Microwave (ppm)	2	2	107.9	6.431						
028.52	Manganese, ICP-MS, Open vessel (ppm)	2	2	113.5	17.72						
028.32	Manganese, AAS, Open vessel (ppm)	1	1	125.0							
030.01	Nitrate, Ion-selective electrode (%)	1	1	0.0004							
031.43	Phosphorus, ICP, Microwave (%)	34	33	0.6666	0.0345	0.6674	0.0334	0.0073	5.01%	0.0117	4.25%
031.01	Phosphorus, Photometric (%)	27	26	0.6673	0.0294	0.6664	0.0208	0.0051	3.13%	0.0117	4.25%
031.42	Phosphorus, ICP, Open vessel (%)	20	19	0.6575	0.0450	0.6629	0.0291	0.0083	4.38%	0.0220	4.25%
031.41	Phosphorus, ICP, Dry ash (%)	18	18	0.6473	0.0938	0.6648	0.0339	0.0100	5.10%	0.0194	4.25%
031.53	Phosphorus, ICP-MS, Microwave (%)	5	5	0.6384	0.0583	0.6384	0.0583	0.0261	9.12%	0.0296	4.28%
031.99	Phosphorus, Miscellaneous (%)	4	4	0.6257	0.0387	0.6257	0.0387	0.0193	6.18%	0.0100	4.29%
031.44	Phosphorus, ICP, Dry ash (%)	3	3	0.6306	0.0314	0.6306	0.0314	0.0181	4.98%	0.0284	4.29%
031.03	Phosphorus, Autoanalyzer (%)	2	2	0.6555	0.0007						
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.6667	0.0066						
031.00	Phosphorus, Vol (%)	1	1	0.5950							
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	0.6600							
032.43	Potassium, ICP, Microwave (%)	32	31	1.004	0.0615	1.005	0.0498	0.0112	4.96%	0.0191	4.00%
032.42	Potassium, ICP, Open vessel (%)	18	17	1.002	0.0931	1.013	0.0730	0.0221	7.20%	0.0198	3.99%

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032.41	Potassium, ICP, Dry ash (%)	16	16	0.9832	0.0584	0.9865	0.0512	0.0160	5.19%	0.0156	4.01%
032.31	Potassium, AAS, Dry ash (%)	8	7	0.9923	0.0366	0.9981	0.0268	0.0127	2.69%	0.0202	4.00%
032.53	Potassium, ICP-MS, Microwave (%)	5	5	0.9591	0.0688	0.9591	0.0688	0.0308	7.17%	0.0330	4.02%
032.99	Potassium, Miscellaneous (%)	5	5	0.9733	0.0432	0.9733	0.0432	0.0193	4.44%	0.0290	4.02%
032.52	Potassium, ICP-MS, Open vessel (%)	3	3	1.020	0.0261	1.020	0.0261	0.0150	2.55%	0.0330	3.99%
032.44	Potassium, ICP, Dry ash (%)	2	2	1.020	0.0354						
032.32	Potassium, AAS, Open vessel (%)	1	1	0.9850							
032.33	Potassium, AAS, Microwave (%)	1	1	0.9950							
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	0.9700							
033.01	Salt as chloride, Poten Cl (%)	25	23	0.6310	0.0145	0.6310	0.0102	0.0026	1.61%	0.0112	4.29%
033.00	Salt as chloride, Sol Cl (%)	14	14	0.5682	0.0859	0.5716	0.0896	0.0299	15.68%	0.0291	4.35%
033.99	Salt, Miscellaneous (%)	13	13	0.5610	0.0680	0.5610	0.0771	0.0267	13.75%	0.0308	4.36%
033.03	Salt as chloride, Quantab (%)	4	4	0.5788	0.0554	0.5788	0.0554	0.0277	9.58%	0.0367	4.34%
033.05	Salt as chloride, Ion Sel Electrode (%)	1	1	0.6300							
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	7	6	0.3884	0.0546	0.3945	0.0436	0.0222	11.05%	0.0169	18.40%
034.04	Selenium, Total (Se), AA, Hydride (ppm)	3	3	0.3794	0.0424	0.3794	0.0424	0.0245	11.18%	0.0369	18.51%
034.41	Selenium, Total (Se), ICP, Dry ash (ppm)	2	2	0.4101	0.0235						
034.43	Selenium, Total (Se), ICP, Microwave (ppm)	4	2	0.4808	0.0979	0.4808	0.0979			0.0285	17.86%
034.52	Selenium, Total (Se), ICP-MS, Open vessel (ppm)	2	2	0.6951	0.3749						
034.01	Selenium, Total (Se), Fluor (ppm)	1	1	0.3855							
034.99	Selenium, Total (Se), Miscellaneous (ppm)	1	1	0.6605							
034.42	Selenium, Total (Se), ICP, Open vessel (ppm)	1		1.000							
035.43	Sodium, ICP, Microwave (%)	29	28	0.1927	0.0101	0.1921	0.0096	0.0023	4.97%	0.0060	5.13%
035.41	Sodium, ICP, Dry ash (%)	19	19	0.1933	0.0096	0.1934	0.0105	0.0030	5.45%	0.0076	5.12%
035.42	Sodium, ICP, Open vessel (%)	18	18	0.1951	0.0257	0.1941	0.0134	0.0040	6.93%	0.0077	5.12%
035.31	Sodium, AAS, Dry ash (%)	8	7	0.1919	0.0163	0.1920	0.0183	0.0087	9.55%	0.0073	5.13%
035.53	Sodium, ICP-MS, Microwave (%)	5	5	0.1760	0.0239	0.1760	0.0239	0.0107	13.59%	0.0055	5.19%
035.99	Sodium, Miscellaneous (%)	4	4	0.1850	0.0071	0.1850	0.0071	0.0035	3.82%	0.0100	5.16%
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.1985	0.0094						
035.05	Sodium, Flame Emission (%)	1	1	0.1700							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.1750							
035.33	Sodium, AAS, Microwave (%)	1	1	0.1900							
036.42	Sulfur, ICP, Open vessel (%)	16	16	0.2243	0.0215	0.2239	0.0119	0.0037	5.32%	0.0107	5.01%
036.43	Sulfur, ICP, Microwave (%)	14	14	0.2308	0.0120	0.2308	0.0135	0.0045	5.87%	0.0067	4.99%
036.04	Sulfur, LECO (%)	5	4	0.2248	0.0150	0.2248	0.0150	0.0075	6.65%	0.0150	5.01%
036.52	Sulfur, ICP-MS, Open vessel (%)	1	1	0.2504							
036.99	Sulfur, Miscellaneous (%)	1	1	0.2250							
037.43	Zinc, ICP, Microwave (ppm)	31	30	110.2	9.268	110.6	9.070	2.070	8.20%	4.556	7.88%
037.42	Zinc, ICP, Open vessel (ppm)	18	18	107.2	8.914	108.0	7.670	2.260	7.10%	4.777	7.91%
037.41	Zinc, ICP, Dry ash (ppm)	14	14	111.8	8.077	111.8	9.160	3.060	8.19%	3.849	7.87%

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037.31	Zinc, AAS, Dry ash (ppm)	8	8	109.1	15.79	112.4	9.044	3.997	8.05%	1.680	7.86%
037.53	Zinc, ICP-MS, Microwave (ppm)	5	4	110.8	0.7860	110.8	0.7860	0.3930	0.71%	5.140	7.88%
037.99	Zinc, Miscellaneous (ppm)	4	4	104.8	16.43	104.8	16.43	8.216	15.68%	6.530	7.94%
037.44	Zinc, ICP, Dry ash (ppm)	3	3	100.3	20.67	100.3	20.67	11.93	20.61%	3.240	8.00%
037.52	Zinc, ICP-MS, Open vessel (ppm)	2	2	120.4	15.55						
037.32	Zinc, AAS, Open vessel (ppm)	1	1	130.5							
037.33	Zinc, AAS, Microwave (ppm)	1	1	105.1							
038.43	Molybdenum, ICP, Microwave (ppm)	11	11	3.131	0.4284	3.143	0.4598	0.1733	14.63%	0.2031	13.46%
038.42	Molybdenum, ICP, Open vessel (ppm)	5	4	3.463	0.3146	3.463	0.3146	0.1573	9.09%	0.2500	13.27%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	5	4	3.479	0.0870	3.479	0.0870	0.0435	2.50%	0.0677	13.26%
038.41	Molybdenum, ICP, Dry ash (ppm)	2	2	3.168	0.1155						
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	1	1	3.000							
038.99	Molybdenum, Miscellaneous (ppm)	1	1	3.500							
040.43	Barium, ICP, Microwave (ppm)	1	1	12.27							
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	11.08							
041.53	Vanadium, ICP-MS, Microwave (ppm)	1	1	0.7623							
042.00	Chloride, Titrimetric (%)	6	6	0.3999	0.0499	0.3854	0.0183	0.0093	4.75%	0.0082	4.62%
042.99	Chloride, Miscellaneous (%)	2	2	0.3775	0.0177						
102.02	Niacin, LC (ppm)	1	1	30.75							
104.03	Riboflavin, LC (ppm)	2	2	2.995	0.0990						
105.00	Thiamine, LC (ppm)	2	2	3.413	0.8167						
106.02	Vitamin A, LC (KU / kg)	10	10	3.471	1.333	3.246	0.8840	0.3494	27.24%	0.3548	
106.01	Vitamin A, UV (KU / kg)	1	1	3.930							
106.99	Vitamin A, Miscellaneous (KU / kg)	1		0.0000							
107.99	Vitamin B12, Miscellaneous (ppb)	1		20.00							
108.02	Vitamin D3, LC (KU / kg)	5	4	3.948	4.396	3.948	4.396	2.538	111.35%	0.2845	
108.99	Vitamin D3, Miscellaneous (KU / kg)	2	1	1.665							
109.02	Vitamin E, LC (IU / kg)	9	7	24.85	14.28	20.78	4.888	2.310	23.52%	0.4617	
109.99	Vitamin E, Miscellaneous (IU / kg)	1		0.0000							
111.98	Vitamin C, Ascorbic Acid, Miscellaneous (ppm)	1		1.000							
112.01	Pyridoxine, LC (µg / g)	1	1	4.305							
113.02	Folic acid, LC (ppm)	1		0.5000							
114.99	Biotin, Miscellaneous (ppm)	1	1	0.1790							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	2	2	1.162	1.467						
115.99	Non Protein N (NPN), Miscellaneous (%)	1	1	0.4937							
120.00	Alanine, Post-col Ninhydrin Der (%)	13	12	0.7880	0.0216	0.7860	0.0181	0.0065	2.30%	0.0112	4.15%
120.05	Alanine, Pre-col AQC Der (%)	9	8	0.7966	0.0492	0.7966	0.0558	0.0246	7.00%	0.0074	4.14%
120.99	Alanine, Miscellaneous (%)	2	2	0.7675	0.0248						
120.02	Alanine, Post-col OPA Der (%)	1	1	0.7930							
121.00	Arginine, Post-col Ninhydrin Der (%)	13	12	1.047	0.0340	1.047	0.0386	0.0139	3.68%	0.0108	3.97%

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121.05	Arginine, Pre-col AQC Der (%)	9	9	1.021	0.0487	1.022	0.0519	0.0216	5.07%	0.0179	3.99%
121.99	Arginine, Miscellaneous (%)	2	2	1.056	0.0301						
121.02	Arginine, Post-col OPA Der (%)	1	1	1.012							
122.00	Aspartic, Post-col Ninhydrin Der (%)	13	12	1.430	0.0380	1.430	0.0431	0.0156	3.01%	0.0118	3.79%
122.05	Aspartic, Pre-col AQC Der (%)	9	9	1.484	0.1069	1.484	0.1212	0.0505	8.17%	0.0430	3.77%
122.99	Aspartic, Miscellaneous (%)	2	2	1.351	0.0725						
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.380							
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	12	12	0.2753	0.0096	0.2753	0.0109	0.0039	3.95%	0.0071	4.86%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	9	8	0.2667	0.0279	0.2677	0.0294	0.0130	11.00%	0.0061	4.88%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	2	2	0.2713	0.0371						
124.99	Cysteine/Cystine, Miscellaneous (%)	2	2	0.2900	0.0141						
125.00	Glutamic, Post-col Ninhydrin Der (%)	13	12	3.025	0.0761	3.018	0.0680	0.0245	2.25%	0.0149	3.39%
125.05	Glutamic, Pre-col AQC Der (%)	9	8	3.082	0.1928	3.082	0.2186	0.0966	7.09%	0.0558	3.38%
125.99	Glutamic, Miscellaneous (%)	2	2	2.905	0.1414						
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.979							
126.00	Glycine, Post-col Ninhydrin Der (%)	13	12	0.7275	0.0141	0.7287	0.0131	0.0047	1.79%	0.0057	4.19%
126.05	Glycine, Pre-col AQC Der (%)	9	9	0.7378	0.0694	0.7338	0.0632	0.0263	8.61%	0.0093	4.19%
126.99	Glycine, Miscellaneous (%)	2	2	0.5788	0.2210						
126.02	Glycine, Post-col OPA Der (%)	1	1	0.7250							
127.00	Histidine, Post-col Ninhydrin Der (%)	13	12	0.4182	0.0181	0.4202	0.0154	0.0055	3.66%	0.0059	4.56%
127.05	Histidine, Pre-col AQC Der (%)	9	9	0.4064	0.0287	0.4068	0.0316	0.0132	7.77%	0.0099	4.58%
127.99	Histidine, Miscellaneous (%)	2	2	0.4188	0.0053						
127.02	Histidine, Post-col OPA Der (%)	1	1	0.4080							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	13	12	0.5949	0.0208	0.5949	0.0235	0.0085	3.96%	0.0078	4.32%
128.05	Isoleucine, Pre-col AQC Der (%)	9	9	0.6050	0.0406	0.6109	0.0289	0.0120	4.73%	0.0078	4.31%
128.99	Isoleucine, Miscellaneous (%)	2	2	0.5750	0.0354						
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.6365							
129.00	Leucine, Post-col Ninhydrin Der (%)	13	12	1.204	0.0233	1.204	0.0264	0.0095	2.19%	0.0090	3.89%
129.05	Leucine, Pre-col AQC Der (%)	9	9	1.208	0.0676	1.208	0.0766	0.0319	6.34%	0.0209	3.89%
129.99	Leucine, Miscellaneous (%)	2	2	1.214	0.1326						
129.02	Leucine, Post-col OPA Der (%)	1	1	1.192							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	16	15	0.7763	0.0230	0.7770	0.0245	0.0079	3.15%	0.0089	4.15%
130.05	L-Lysine, Pre-col AQC Der (%)	9	9	0.7758	0.0415	0.7758	0.0471	0.0196	6.07%	0.0183	4.16%
130.99	L-Lysine, Miscellaneous (%)	2	2	0.8050	0.0778						
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.8180							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	13	13	0.2517	0.0115	0.2517	0.0129	0.0045	5.14%	0.0052	4.92%
131.05	Methionine, PAO Pre-col AQC Der (%)	9	9	0.2434	0.0197	0.2434	0.0223	0.0093	9.18%	0.0080	4.95%
131.02	Methionine, PAO Post-col OPA Der (%)	2	2	0.2428	0.0032						
131.99	Methionine, Miscellaneous (%)	2	2	0.2700	0.0283						
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	13	12	0.7291	0.0135	0.7293	0.0151	0.0054	2.07%	0.0071	4.19%

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132.05	Phenylalanine, Pre-col AQC Der (%)	9	9	0.7132	0.0485	0.7156	0.0495	0.0206	6.92%	0.0171	4.21%
132.99	Phenylalanine, Miscellaneous (%)	2	2	0.7163	0.0371						
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.7295							
133.00	Proline, Post-col Ninhydrin Der (%)	13	13	1.002	0.0365	1.001	0.0390	0.0135	3.90%	0.0250	4.00%
133.05	Proline, Pre-col AQC Der (%)	9	8	0.9998	0.0333	1.002	0.0332	0.0147	3.31%	0.0082	4.00%
133.99	Proline, Miscellaneous (%)	2	2	0.9975	0.0106						
134.00	Serine, Post-col Ninhydrin Der (%)	13	13	0.7384	0.0437	0.7417	0.0311	0.0108	4.19%	0.0078	4.18%
134.05	Serine, Pre-col AQC Der (%)	9	8	0.7544	0.0377	0.7544	0.0427	0.0189	5.66%	0.0068	4.17%
134.99	Serine, Miscellaneous (%)	2	2	0.7575	0.0248						
134.02	Serine, Post-col OPA Der (%)	1	1	0.6250							
135.00	Threonine, Post-col Ninhydrin Der (%)	13	12	0.5657	0.0169	0.5673	0.0151	0.0055	2.66%	0.0055	4.36%
135.05	Threonine, Pre-col AQC Der (%)	9	8	0.5774	0.0314	0.5774	0.0356	0.0158	6.17%	0.0082	4.34%
135.99	Threonine, Miscellaneous (%)	2	2	0.5588	0.0124						
135.02	Threonine, Post-col OPA Der (%)	1	1	0.5210							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	6	6	0.2322	0.0098	0.2322	0.0111	0.0057	4.79%	0.0040	4.98%
136.05	Tryptophan, Pre-col AQC Der (%)	5	5	0.2102	0.0302	0.2102	0.0302	0.0135	14.38%	0.0047	5.06%
136.99	Tryptophan, Miscellaneous (%)	4	4	0.2979	0.1550	0.2979	0.1550	0.0775	52.02%	0.0075	4.80%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.2270	0.0352	0.2270	0.0352	0.0249	15.49%		5.00%
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	2	2	0.2420	0.0665						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2215							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	12	12	0.4817	0.0454	0.4817	0.0515	0.0186	10.69%	0.0108	4.46%
137.05	Tyrosine, Pre-col AQC Der (%)	9	9	0.4656	0.0653	0.4754	0.0482	0.0201	10.13%	0.0161	4.47%
137.99	Tyrosine, Miscellaneous (%)	2	2	0.4863	0.0442						
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.4425							
138.00	Valine, Post-col Ninhydrin Der (%)	13	12	0.7388	0.0206	0.7385	0.0190	0.0069	2.57%	0.0093	4.19%
138.05	Valine, Pre-col AQC Der (%)	9	9	0.7320	0.0486	0.7377	0.0321	0.0134	4.35%	0.0138	4.19%
138.99	Valine, Miscellaneous (%)	2	2	0.7250	0.0071						
138.02	Valine, Post-col OPA Der (%)	1	1	0.7850							
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.1575	0.1025						
139.05	Taurine, Pre-col AQC Der (%)	2	1	0.0880							
139.99	Taurine, Miscellaneous (%)	1	1	0.0100							
139.02	Taurine, Post-col OPA Der (%)	2		0.0100							
160.10	Fructose, HPAEC PAD (%)	2	2	0.1950	0.0283						
160.99	Fructose, Miscellaneous (%)	1		0.1500							
161.10	Galactose, HPAEC PAD (%)	2	1	0.0150							
162.10	Glucose, HPAEC PAD (%)	2	2	0.1600	0.0212						
162.99	Glucose, Miscellaneous (%)	2	1	5.500							
163.10	Lactose, HPAEC PAD (%)	1		0.0000							
163.99	Lactose, Miscellaneous (%)	1		0.1500							
164.10	Maltose, HPAEC PAD (%)	2	2	0.4125	0.1379						

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164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.10	Sucrose, HPAEC PAD (%)	2	2	2.878	0.1945						
165.99	Sucrose, Miscellaneous (%)	1	1	2.905							
166.10	Raffinose, HPAEC PAD (%)	2	2	0.7450	0.2404						
166.99	Raffinose, Miscellaneous (%)	1	1	0.5650							
167.10	Stachyose, HPAEC PAD (%)	2	2	0.8525	0.2015						
167.99	Stachyose, Miscellaneous (%)	1	1	1.205							
373.03	Oxytetracycline, LC (ppm)	3	3	441.0	61.35	441.0	61.35	35.42	13.91%	14.79	6.40%
373.06	Oxytetracycline, LC-MS/MS (ppm)	3	3	384.9	127.2	384.9	127.2	89.95	33.05%	20.33	6.53%
373.00	Oxytetracycline, Plate (ppm)	1	1	472.3							
373.04	Oxytetracycline, LC, AOAC (ppm)	1	1	475.0							
400.01	Water Activity, Aqualab chilled mirror (Units)	10	10	0.5299	0.0164	0.5286	0.0154	0.0061	2.90%	0.0066	
400.99	Water Activity, Miscellaneous (Units)	4	4	0.5100	0.0300	0.5100	0.0300	0.0150	5.88%	0.0030	
516.53	Arsenic, Total (As), ICP-MS, Microwave (ppm)	3	3	0.0972	0.0168	0.0972	0.0168	0.0097	17.25%	0.0091	22.00%
516.00	Arsenic, Total (As), AA, Hydride (ppm)	1	1	0.1040							
516.52	Arsenic, Total (As), ICP-MS, Open vessel (ppm)	1	1	0.1032							
516.43	Arsenic, Total (As), ICP, Microwave (ppm)	1		20.00							
518.53	Cadmium, ICP-MS, Microwave (ppm)	4	4	0.1407	0.0271	0.1407	0.0271	0.0136	19.26%	0.0063	21.49%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.1418	0.0040						
518.43	Cadmium, ICP, Microwave (ppm)	2	2	0.1476	0.0108						
518.33	Cadmium, AAS, Microwave (ppm)	1	1	0.0569							
518.42	Cadmium, ICP, Open vessel (ppm)	1	1	0.1500							
518.52	Cadmium, ICP-MS, Open vessel (ppm)	1	1	0.1567							
520.43	Chromium, Total (Cr), ICP, Microwave (ppm)	6	6	5.108	0.8557	5.108	0.9704	0.4952	19.00%	0.0826	12.52%
520.53	Chromium, Total (Cr), ICP-MS, Microwave (ppm)	4	3	4.698	0.2493	4.698	0.2493	0.1440	5.31%	0.2116	12.67%
520.41	Chromium, Total (Cr), ICP, Dry ash (ppm)	2	2	3.182	0.9530						
520.42	Chromium, Total (Cr), ICP, Open vessel (ppm)	2	2	3.735	1.549						
520.52	Chromium, Total (Cr), ICP-MS, Open vessel (ppm)	1	1	2.623							
526.53	Lead, ICP-MS, Microwave (ppm)	4	4	0.1163	0.0074	0.1163	0.0074	0.0037	6.37%	0.0122	22.00%
526.43	Lead, ICP, Microwave (ppm)	2	2	0.2454	0.2340						
526.33	Lead, AAS, Microwave (ppm)	1	1	0.2016							
526.41	Lead, ICP, Dry ash (ppm)	1	1	0.1847							
526.52	Lead, ICP-MS, Open vessel (ppm)	1	1	0.1239							
529.99	Mercury, Miscellaneous (ppb)	4	3	982.2	1,696	982.2	1,696	1,199	172.62%	0.1115	16.04%
539.43	Nickel, ICP, Microwave (ppm)	5	4	2.844	0.2544	2.844	0.2544	0.1272	8.95%	0.2066	13.67%
539.53	Nickel, ICP-MS, Microwave (ppm)	2	2	2.631	0.2634						
539.41	Nickel, ICP, Dry ash (ppm)	1	1	2.264							
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	1.447							
710.99	Lauric Acid (12:0), Miscellaneous (%) (w/w))	1		0.0050							
714.99	Myristic Acid (14:0), Miscellaneous (%) (w/w))	1		0.0050							

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716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	1	1	0.5249							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	1	1	0.0048							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	1	1	0.0576							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	1	1	0.6410							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	1	1	1.734							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	1	1	0.1317							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	1	1	0.0084							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.0175							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	1		0.0050							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	1	1	0.0075							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.0050							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	1		0.0050							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	1	1	0.0092							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	1		0.0050							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	1		0.0050							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	1	1	3.136							

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: 132

Poultry Feed, Medicated

Method Precision Report

Labs Reporting: 158

Test Material Code # 202528

Issue Date : 09/30/2025

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 (%)	43	39	8.792	0.2156	0.1838	0.0737	0.1980	2.09%	0.84%	2.25%	2.686
001.99	Loss on Drying, Miscellaneous (%)	16	16	8.633	0.3714	0.3693	0.0556	0.3735	4.28%	0.64%	4.33%	6.715
002.01	Protein, Crude, Auto Kjel-Foss (%)	18	17	16.36	0.1663	0.1641	0.0385	0.1685	1.00%	0.24%	1.03%	4.376
002.05	Protein, Crude, Copper, Boric Acid (%)	21	19	16.47	0.4084	0.2564	0.0666	0.2650	1.56%	0.41%	1.62%	3.977
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	112	102	16.54	0.2280	0.1974	0.1192	0.2306	1.19%	0.72%	1.40%	1.935
002.11	Protein, Crude, NIR (%)	8	7	16.39	0.4989	0.4974	0.0550	0.5005	3.03%	0.34%	3.05%	9.094
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	10	10	2.742	0.2803	0.2725	0.0928	0.2878	9.94%	3.38%	10.50%	3.101
003.06	Fat, Crude, Pet Ether (%)	18	16	2.747	0.2115	0.2102	0.0610	0.2189	7.68%	2.23%	8.00%	3.587
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	9	8	2.850	0.1319	0.1289	0.0703	0.1468	4.54%	2.47%	5.17%	2.088
003.10	Fat, Crude, Randall, Pet Ether (%)	28	25	2.605	0.2015	0.1664	0.0631	0.1779	6.46%	2.45%	6.91%	2.821
003.11	Fat, Crude, NIR (%)	7	7	3.007	0.5162	0.5157	0.0307	0.5167	17.15%	1.02%	17.18%	16.83
003.12	Fat, Crude, Hexane Ext (%)	5	5	2.799	0.2168	0.2081	0.0860	0.2252	7.44%	3.07%	8.05%	2.620
003.14	Fat, Crude, Ankom (%)	56	50	2.788	0.4284	0.3158	0.0544	0.3205	11.41%	1.96%	11.58%	5.893
004.00	Fiber, Crude, Asbestos Free (%)	7	5	4.572	0.6498	0.1638	0.0778	0.1814	3.80%	1.80%	4.20%	2.330
004.06	Fiber, Crude, Fibertec (%)	16	15	4.400	0.4009	0.2841	0.1910	0.3424	6.56%	4.41%	7.90%	1.792
004.07	Fiber, Crude, ANKOM (%)	74	69	4.840	0.8966	0.7331	0.1791	0.7546	15.35%	3.75%	15.80%	4.214
004.11	Fiber, Crude, NIR (%)	6	6	5.047	0.4989	0.4926	0.1118	0.5051	9.76%	2.22%	10.01%	4.518
005.00	Ash, 2h @ 600°C (%)	94	88	11.56	0.7910	0.6807	0.1569	0.6986	5.85%	1.35%	6.00%	4.453
005.05	Ash, 3h @ 550°C (%)	25	22	12.13	0.5829	0.3757	0.0631	0.3810	3.08%	0.52%	3.12%	6.036
005.11	Ash, NIR (%)	7	7	8.769	2.025	2.023	0.0937	2.026	23.07%	1.07%	23.10%	21.62
005.99	Ash, Miscellaneous (%)	6	6	12.45	0.3951	0.3929	0.0587	0.3973	3.16%	0.47%	3.19%	6.772
006.99	Total Sugars, Miscellaneous (%)	7	5	5.912	2.275	0.7689	0.1204	0.7783	15.57%	2.44%	15.76%	6.465
008.02	Fiber, Acid Detergent, Crucible (%)	13	12	5.997	0.4050	0.2720	0.0767	0.2826	4.60%	1.30%	4.78%	3.684
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	46	42	5.759	0.4386	0.4310	0.1532	0.4574	7.48%	2.66%	7.94%	2.985
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	11	17.54	1.511	1.503	0.2111	1.518	8.57%	1.20%	8.66%	7.193
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	45	42	16.95	0.9703	0.9542	0.2650	0.9903	5.64%	1.57%	5.85%	3.737
010.11	Moisture, NIR (%)	6	6	9.404	0.2308	0.2284	0.0468	0.2332	2.43%	0.50%	2.48%	4.978
010.99	Moisture, Miscellaneous (%)	16	13	8.857	0.5773	0.4394	0.0875	0.4481	4.89%	0.97%	4.99%	5.120

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
011.01	Loss on Drying, HT, 135°C 2hr (%)	61	55	9.467	0.5839	0.3887	0.0839	0.3977	4.08%	0.88%	4.17%	4.738
012.00	Starch, Polarimetric (Ewers) (%)	16	15	31.57	0.8959	0.6770	0.2264	0.7138	2.13%	0.71%	2.25%	3.152
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	10	8	29.42	1.307	0.4755	1.086	1.186	1.60%	3.65%	3.98%	1.092
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	9	9	30.03	1.029	0.8760	0.7641	1.162	2.92%	2.54%	3.87%	1.521
013.00	Fat, Pretreat, Acid hydrolysis (%)	18	17	3.774	0.3756	0.3560	0.1336	0.3802	9.36%	3.51%	10.00%	2.846
013.02	Fat, Pretreat, Mojonier, Bak Ext, Acid hydrolysis (%)	14	13	4.202	0.4724	0.4758	0.1629	0.5029	11.29%	3.87%	11.94%	3.088
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	8	7	3.301	0.3877	0.3942	0.0894	0.4042	12.10%	2.74%	12.40%	4.523
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	8	8	3.609	0.4664	0.2271	0.5760	0.6192	6.29%	15.96%	17.15%	1.075
015.43	Aluminum, ICP, Microwave (ppm)	7	7	180.0	17.46	17.27	3.624	17.65	9.59%	2.01%	9.80%	4.868
017.41	Boron, ICP, Dry ash (ppm)	5	5	7.425	0.6015	0.5787	0.2319	0.6235	7.79%	3.12%	8.40%	2.688
019.00	Calcium, Ox-Mn04 Vol. (%)	6	6	3.571	0.4382	0.4371	0.0444	0.4393	12.24%	1.24%	12.30%	9.892
019.08	Calcium, EDTA (%)	9	9	3.467	0.1319	0.1206	0.0755	0.1423	3.48%	2.18%	4.10%	1.885
019.31	Calcium, AAS, Dry ash (%)	15	13	3.465	0.1423	0.1449	0.0433	0.1512	4.18%	1.25%	4.36%	3.494
019.41	Calcium, ICP, Dry ash (%)	19	19	3.371	0.1305	0.1187	0.0766	0.1413	3.52%	2.27%	4.19%	1.844
019.42	Calcium, ICP, Open vessel (%)	19	18	3.475	0.3087	0.1687	0.0990	0.1956	4.77%	2.80%	5.53%	1.976
019.43	Calcium, ICP, Microwave (%)	35	34	3.439	0.1177	0.1012	0.0847	0.1320	2.94%	2.46%	3.84%	1.558
019.99	Calcium, Miscellaneous (%)	5	5	3.493	0.1812	0.1720	0.0803	0.1899	4.93%	2.30%	5.44%	2.364
021.43	Cobalt, ICP, Microwave (ppm)	13	11	1.415	0.3347	0.3484	0.0580	0.3532	24.68%	4.11%	25.02%	6.091
022.31	Copper, AAS, Dry ash (ppm)	9	9	14.99	1.800	1.733	0.6870	1.864	11.56%	4.58%	12.44%	2.714
022.41	Copper, ICP, Dry ash (ppm)	13	12	15.95	2.775	1.461	0.5370	1.557	9.55%	3.51%	10.18%	2.899
022.42	Copper, ICP, Open vessel (ppm)	19	17	15.76	2.479	1.339	0.9118	1.620	8.49%	5.78%	10.27%	1.777
022.43	Copper, ICP, Microwave (ppm)	29	26	14.95	1.792	1.099	0.4344	1.181	7.21%	2.85%	7.75%	2.720
025.31	Iron, AAS, Dry ash (ppm)	9	7	299.0	92.22	91.53	5.868	91.72	31.99%	2.05%	32.05%	15.63
025.41	Iron, ICP, Dry ash (ppm)	16	14	293.7	22.01	15.25	8.918	17.67	5.12%	2.99%	5.93%	1.981
025.42	Iron, ICP, Open vessel (ppm)	18	17	269.2	24.05	22.86	10.56	25.18	8.49%	3.92%	9.35%	2.384
025.43	Iron, ICP, Microwave (ppm)	32	29	296.4	25.27	18.59	5.554	19.41	6.18%	1.85%	6.45%	3.494
027.31	Magnesium, AAS, Dry ash (%)	9	7	0.2663	0.0247	0.0089	0.0042	0.0098	3.24%	1.53%	3.58%	2.347
027.41	Magnesium, ICP, Dry ash (%)	15	15	0.2741	0.0125	0.0119	0.0052	0.0130	4.34%	1.89%	4.73%	2.503
027.42	Magnesium, ICP, Open vessel (%)	20	18	0.2770	0.0229	0.0149	0.0071	0.0165	5.31%	2.54%	5.88%	2.315
027.43	Magnesium, ICP, Microwave (%)	31	29	0.2754	0.0212	0.0156	0.0064	0.0169	5.59%	2.29%	6.04%	2.637
027.53	Magnesium, ICP-MS, Microwave (%)	5	5	0.2725	0.0162	0.0152	0.0078	0.0171	5.58%	2.85%	6.26%	2.195
028.31	Manganese, AAS, Dry ash (ppm)	9	9	112.4	5.258	5.054	2.049	5.453	4.50%	1.82%	4.85%	2.662
028.41	Manganese, ICP, Dry ash (ppm)	13	13	113.4	6.596	5.714	4.659	7.373	5.04%	4.11%	6.50%	1.582
028.42	Manganese, ICP, Open vessel (ppm)	19	16	111.0	7.629	4.525	2.646	5.242	4.02%	2.35%	4.66%	1.981
028.43	Manganese, ICP, Microwave (ppm)	31	28	111.5	7.495	6.038	3.834	7.153	5.46%	3.47%	6.47%	1.865
028.53	Manganese, ICP-MS, Microwave (ppm)	6	5	110.5	11.60	4.270	2.978	5.206	3.72%	2.59%	4.53%	1.748
031.01	Phosphorus, Photometric (%)	27	24	0.6673	0.0294	0.0195	0.0085	0.0213	2.93%	1.27%	3.19%	2.505
031.41	Phosphorus, ICP, Dry ash (%)	18	17	0.6473	0.0938	0.0280	0.0156	0.0320	4.19%	2.33%	4.79%	2.056

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
031.42	Phosphorus, ICP, Open vessel (%)	20	17	0.6575	0.0450	0.0192	0.0217	0.0290	2.88%	3.25%	4.34%	1.335
031.43	Phosphorus, ICP, Microwave (%)	34	32	0.6666	0.0345	0.0343	0.0085	0.0353	5.13%	1.27%	5.29%	4.161
031.53	Phosphorus, ICP-MS, Microwave (%)	5	5	0.6384	0.0583	0.0562	0.0215	0.0602	8.81%	3.36%	9.43%	2.802
032.31	Potassium, AAS, Dry ash (%)	8	6	0.9923	0.0366	0.0136	0.0148	0.0201	1.35%	1.47%	2.00%	1.355
032.41	Potassium, ICP, Dry ash (%)	16	15	0.9832	0.0584	0.0437	0.0126	0.0455	4.40%	1.27%	4.58%	3.602
032.42	Potassium, ICP, Open vessel (%)	18	16	1.002	0.0931	0.0585	0.0170	0.0609	5.74%	1.67%	5.98%	3.577
032.43	Potassium, ICP, Microwave (%)	32	29	1.004	0.0615	0.0468	0.0196	0.0507	4.64%	1.94%	5.03%	2.591
032.53	Potassium, ICP-MS, Microwave (%)	5	5	0.9591	0.0688	0.0667	0.0236	0.0708	6.95%	2.47%	7.38%	2.993
032.99	Potassium, Miscellaneous (%)	5	5	0.9733	0.0432	0.0398	0.0237	0.0463	4.09%	2.44%	4.76%	1.954
033.00	Salt as chloride, Sol Cl (%)	14	14	0.5682	0.0859	0.0845	0.0218	0.0873	14.87%	3.84%	15.36%	3.996
033.01	Salt as chloride, Poten Cl (%)	25	23	0.6310	0.0145	0.0137	0.0067	0.0153	2.17%	1.07%	2.42%	2.265
033.99	Salt, Miscellaneous (%)	13	13	0.5610	0.0680	0.0659	0.0238	0.0701	11.75%	4.25%	12.49%	2.942
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	7	6	0.3884	0.0546	0.0541	0.0102	0.0551	13.93%	2.63%	14.17%	5.380
035.31	Sodium, AAS, Dry ash (%)	8	7	0.1919	0.0163	0.0159	0.0051	0.0167	8.28%	2.65%	8.69%	3.286
035.41	Sodium, ICP, Dry ash (%)	19	17	0.1933	0.0096	0.0083	0.0036	0.0091	4.31%	1.89%	4.70%	2.490
035.42	Sodium, ICP, Open vessel (%)	18	15	0.1951	0.0257	0.0100	0.0048	0.0111	5.15%	2.50%	5.73%	2.293
035.43	Sodium, ICP, Microwave (%)	29	26	0.1927	0.0101	0.0096	0.0033	0.0102	5.01%	1.73%	5.30%	3.064
035.53	Sodium, ICP-MS, Microwave (%)	5	5	0.1760	0.0239	0.0237	0.0043	0.0241	13.47%	2.46%	13.70%	5.564
036.42	Sulfur, ICP, Open vessel (%)	16	15	0.2243	0.0215	0.0142	0.0108	0.0179	6.24%	4.75%	7.84%	1.652
036.43	Sulfur, ICP, Microwave (%)	14	14	0.2308	0.0120	0.0116	0.0042	0.0124	5.04%	1.82%	5.36%	2.944
037.31	Zinc, AAS, Dry ash (ppm)	8	7	109.1	15.79	6.201	1.188	6.313	5.42%	1.04%	5.52%	5.314
037.41	Zinc, ICP, Dry ash (ppm)	14	14	111.8	8.077	7.661	3.621	8.473	6.85%	3.24%	7.58%	2.340
037.42	Zinc, ICP, Open vessel (ppm)	18	17	107.2	8.914	5.776	3.934	6.988	5.31%	3.62%	6.43%	1.777
037.43	Zinc, ICP, Microwave (ppm)	31	27	110.2	9.268	7.857	3.732	8.698	7.09%	3.37%	7.85%	2.331
038.43	Molybdenum, ICP, Microwave (ppm)	11	11	3.131	0.4284	0.4088	0.1814	0.4472	13.06%	5.79%	14.28%	2.466
042.00	Chloride, Titrimetric (%)	6	5	0.3999	0.0499	0.0090	0.0062	0.0109	2.37%	1.62%	2.87%	1.770
106.02	Vitamin A, LC (KU / kg)	10	9	3.471	1.333	0.6293	0.2948	0.6949	20.31%	9.51%	22.43%	2.358
109.02	Vitamin E, LC (IU / kg)	9	6	24.85	14.28	3.111	0.3863	3.135	15.91%	1.97%	16.03%	8.116
120.00	Alanine, Post-col Ninhydrin Der (%)	13	10	0.7880	0.0216	0.0113	0.0064	0.0129	1.43%	0.81%	1.64%	2.034
120.05	Alanine, Pre-col AQC Der (%)	9	8	0.7966	0.0492	0.0490	0.0052	0.0493	6.16%	0.66%	6.19%	9.432
121.00	Arginine, Post-col Ninhydrin Der (%)	13	11	1.047	0.0340	0.0316	0.0069	0.0323	3.03%	0.66%	3.10%	4.710
121.05	Arginine, Pre-col AQC Der (%)	9	9	1.021	0.0487	0.0474	0.0159	0.0500	4.64%	1.56%	4.90%	3.136
122.00	Aspartic, Post-col Ninhydrin Der (%)	13	11	1.430	0.0380	0.0383	0.0069	0.0389	2.67%	0.48%	2.72%	5.620
122.05	Aspartic, Pre-col AQC Der (%)	9	8	1.484	0.1069	0.0921	0.0279	0.0963	6.30%	1.91%	6.58%	3.452
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	12	11	0.2753	0.0096	0.0083	0.0035	0.0090	3.01%	1.27%	3.26%	2.575
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	9	8	0.2667	0.0279	0.0277	0.0038	0.0280	10.39%	1.43%	10.49%	7.327
125.00	Glutamic, Post-col Ninhydrin Der (%)	13	10	3.025	0.0761	0.0441	0.0066	0.0446	1.47%	0.22%	1.49%	6.744
125.05	Glutamic, Pre-col AQC Der (%)	9	8	3.082	0.1928	0.1906	0.0413	0.1950	6.18%	1.34%	6.33%	4.725

Test Material Code # 202528

Issue Date : 09/30/2025

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
126.00	Glycine, Post-col Ninhydrin Der (%)	13	11	0.7275	0.0141	0.0099	0.0035	0.0105	1.36%	0.48%	1.44%	2.993
126.05	Glycine, Pre-col AQC Der (%)	9	9	0.7378	0.0694	0.0693	0.0063	0.0696	9.39%	0.85%	9.43%	11.06
127.00	Histidine, Post-col Ninhydrin Der (%)	13	11	0.4182	0.0181	0.0117	0.0041	0.0123	2.76%	0.97%	2.92%	3.028
127.05	Histidine, Pre-col AQC Der (%)	9	8	0.4064	0.0287	0.0225	0.0065	0.0234	5.45%	1.57%	5.67%	3.621
128.00	Isoleucine, Post-col Ninhydrin Der (%)	13	11	0.5949	0.0208	0.0208	0.0042	0.0212	3.50%	0.71%	3.57%	5.047
128.05	Isoleucine, Pre-col AQC Der (%)	9	8	0.6050	0.0406	0.0217	0.0049	0.0222	3.51%	0.80%	3.60%	4.489
129.00	Leucine, Post-col Ninhydrin Der (%)	13	12	1.204	0.0233	0.0227	0.0071	0.0238	1.89%	0.59%	1.98%	3.341
129.05	Leucine, Pre-col AQC Der (%)	9	8	1.208	0.0676	0.0694	0.0143	0.0709	5.72%	1.17%	5.84%	4.973
130.00	L-Lysine, Post-col Ninhydrin Der (%)	16	15	0.7763	0.0230	0.0226	0.0063	0.0235	2.91%	0.81%	3.02%	3.738
130.05	L-Lysine, Pre-col AQC Der (%)	9	9	0.7758	0.0415	0.0402	0.0144	0.0427	5.19%	1.85%	5.51%	2.971
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	13	13	0.2517	0.0115	0.0112	0.0033	0.0117	4.45%	1.32%	4.64%	3.521
131.05	Methionine, PAO Pre-col AQC Der (%)	9	9	0.2434	0.0197	0.0191	0.0067	0.0203	7.86%	2.75%	8.33%	3.023
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	13	12	0.7291	0.0135	0.0130	0.0052	0.0140	1.79%	0.71%	1.92%	2.714
132.05	Phenylalanine, Pre-col AQC Der (%)	9	9	0.7132	0.0485	0.0476	0.0131	0.0494	6.68%	1.84%	6.92%	3.765
133.00	Proline, Post-col Ninhydrin Der (%)	13	12	1.002	0.0365	0.0328	0.0172	0.0370	3.29%	1.72%	3.71%	2.155
133.05	Proline, Pre-col AQC Der (%)	9	7	0.9998	0.0333	0.0354	0.0050	0.0358	3.54%	0.50%	3.57%	7.095
134.00	Serine, Post-col Ninhydrin Der (%)	13	12	0.7384	0.0437	0.0300	0.0065	0.0307	4.02%	0.87%	4.11%	4.723
134.05	Serine, Pre-col AQC Der (%)	9	8	0.7544	0.0377	0.0374	0.0063	0.0379	4.96%	0.84%	5.03%	5.992
135.00	Threonine, Post-col Ninhydrin Der (%)	13	11	0.5657	0.0169	0.0115	0.0036	0.0121	2.02%	0.62%	2.12%	3.394
135.05	Threonine, Pre-col AQC Der (%)	9	8	0.5774	0.0314	0.0311	0.0062	0.0317	5.39%	1.08%	5.50%	5.089
136.03	Tryptophan, Alka-Hydrol + IS RP LC Fl (%)	6	6	0.2322	0.0098	0.0096	0.0027	0.0100	4.15%	1.16%	4.31%	3.704
136.05	Tryptophan, Pre-col AQC Der (%)	5	5	0.2102	0.0302	0.0302	0.0027	0.0303	14.34%	1.29%	14.40%	11.13
137.00	Tyrosine, Post-col Ninhydrin Der (%)	12	11	0.4817	0.0454	0.0408	0.0067	0.0413	8.58%	1.41%	8.70%	6.155
137.05	Tyrosine, Pre-col AQC Der (%)	9	7	0.4656	0.0653	0.0303	0.0082	0.0314	6.17%	1.67%	6.39%	3.828
138.00	Valine, Post-col Ninhydrin Der (%)	13	12	0.7388	0.0206	0.0201	0.0067	0.0212	2.72%	0.91%	2.86%	3.151
138.05	Valine, Pre-col AQC Der (%)	9	8	0.7320	0.0486	0.0271	0.0088	0.0285	3.64%	1.18%	3.82%	3.250
400.01	Water Activity, Aqualab chilled mirror (Units)	10	10	0.5299	0.0164	0.0159	0.0059	0.0169	3.00%	1.12%	3.20%	2.867
520.43	Chromium, Total (Cr), ICP, Microwave (ppm)	6	6	5.108	0.8557	0.8548	0.0554	0.8566	16.74%	1.08%	16.77%	15.47

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