



AAFCO
Association of American Feed Control Officials



Animal Feed Scheme

Pig Feed, Medicated

Test Material Code # 202529

Method Summary Report

(Precision Report Follows)

Labs Reporting: 155

Methods Reported: 369

Issue Date : 10/31/2025

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 (%)	42	42	8.865	0.2310	8.877	0.2051	0.0396	2.31%	0.1208	2.88%
001.99	Loss on Drying, Miscellaneous (%)	17	16	8.744	0.5101	8.662	0.3721	0.1163	4.30%	0.0943	2.89%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	8.631	0.6848	8.631	0.6848	0.3954	7.93%	0.1155	2.89%
001.03	Loss on Drying, Low temp. methods (%)	3	3	9.013	0.1314	9.013	0.1314			0.1300	2.87%
001.05	Loss on Drying, LECO (%)	1	1	8.821							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	111	109	16.72	0.3020	16.71	0.2478	0.0297	1.48%	0.1506	2.45%
002.05	Protein, Crude, Copper, Boric Acid (%)	19	19	16.56	0.2754	16.60	0.1058	0.0304	0.64%	0.0992	2.45%
002.01	Protein, Crude, Auto Kjell-Foss (%)	17	16	16.57	0.2013	16.54	0.1517	0.0474	0.92%	0.0811	2.46%
002.11	Protein, Crude, NIR (%)	7	7	15.10	3.711	16.22	1.078	0.5093	6.65%	0.1541	2.48%
002.00	Protein, Crude, Crude (%)	1	1	15.84							
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	1	1	16.55							
002.04	Protein, Crude, Copper Catalyst (%)	1	1	15.77							
002.08	Protein, Crude, Cu/Ti (%)	1	1	16.51							
003.14	Fat, Crude, Ankom (%)	52	51	3.138	0.4203	3.139	0.3696	0.0647	11.78%	0.1092	3.37%
003.10	Fat, Crude, Randall, Pet Ether (%)	25	24	3.420	0.2711	3.370	0.1686	0.0430	5.00%	0.0691	3.33%
003.06	Fat, Crude, Pet Ether (%)	14	14	3.364	0.2582	3.371	0.2778	0.0928	8.24%	0.1215	3.33%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	10	10	3.266	0.2469	3.263	0.2745	0.1085	8.41%	0.0691	3.35%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	9	9	3.451	0.2056	3.451	0.2327	0.0969	6.74%	0.0864	3.32%
003.11	Fat, Crude, NIR (%)	7	7	3.594	0.1438	3.594	0.1631	0.0771	4.54%	0.0700	3.30%
003.12	Fat, Crude, Hexane Ext (%)	4	4	3.575	0.1285	3.575	0.1285	0.0643	3.59%	0.1750	3.30%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	3	3	3.291	0.4200	3.291	0.4200	0.2425	12.76%	0.0448	3.34%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	3	3	3.223	0.3381	3.223	0.3381	0.1952	10.49%	0.1400	3.35%
003.99	Fat, Crude, Miscellaneous (%)	2	2	2.875	0.6647						
004.07	Fiber, Crude, ANKOM (%)	77	75	3.458	0.3188	3.453	0.2847	0.0411	8.25%	0.1360	3.32%
004.06	Fiber, Crude, Fibertec (%)	19	18	3.615	0.4117	3.595	0.4210	0.1240	11.71%	0.1375	3.30%
004.00	Fiber, Crude, Asbestos Free (%)	8	8	3.757	0.4327	3.726	0.4164	0.1840	11.18%	0.0786	3.28%
004.11	Fiber, Crude, NIR (%)	6	6	3.909	0.4200	3.851	0.3325	0.1697	8.64%	0.1344	3.27%
004.03	Fiber, Crude, Fritted Glass (%)	3	3	3.741	0.3255	3.741	0.3255	0.1879	8.70%	0.0383	3.28%
004.99	Fiber, Crude, Miscellaneous (%)	2	2	3.537	0.1506						

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005.00	Ash, 2h @ 600°C (%)	83	80	6.467	0.2280	6.480	0.1225	0.0171	1.89%	0.0678	3.02%
005.05	Ash, 3h @ 550°C (%)	27	26	6.673	0.1526	6.672	0.1516	0.0372	2.27%	0.0612	3.01%
005.11	Ash, NIR (%)	6	6	6.587	1.309	6.587	1.484	0.7573	22.53%	0.1040	3.01%
005.99	Ash, Miscellaneous (%)	5	4	6.773	0.0634	6.773	0.0634	0.0317	0.94%	0.0650	3.00%
005.02	Ash, LECO (%)	1	1	6.831							
005.03	Ash, Microwave furnace (%)	1	1	6.150							
006.99	Total Sugars, Miscellaneous (%)	5	4	4.629	1.246	4.629	1.246	0.6229	26.91%	0.3075	3.18%
006.00	Total Sugars, As sucrose (%)	2	2	5.522	0.3840						
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	48	46	4.913	0.5010	4.900	0.5329	0.0982	10.88%	0.1771	3.15%
008.02	Fiber, Acid Detergent, Crucible (%)	11	11	5.202	0.3675	5.202	0.4168	0.1571	8.01%	0.1927	3.12%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	2	2	5.693	0.2722						
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	42	13.18	0.8715	13.14	0.8930	0.1722	6.79%	0.3391	2.71%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	11	14.21	1.196	14.21	1.356	0.5110	9.54%	0.4169	2.65%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	1	1	15.40							
010.99	Moisture, Miscellaneous (%)	16	16	8.907	0.6484	8.831	0.5601	0.1750	6.34%	0.1711	2.88%
010.11	Moisture, NIR (%)	5	5	9.764	0.6808	9.764	0.6808	0.3045	6.97%	0.0800	2.84%
010.03	Moisture, Karl-Fischer (%)	2	2	9.938	1.050						
011.01	Loss on Drying, HT, 135°C 2hr (%)	59	57	9.838	0.4879	9.896	0.4022	0.0666	4.06%	0.1093	2.83%
011.99	Loss on Drying, HT, High Temp. Methods Miscellaneous (%)	4	4	8.958	0.3910	8.958	0.3910	0.1955	4.36%	0.2050	2.88%
011.02	Loss on Drying, HT, 130°C for 2 hours (%)	2	2	9.260	0.0354						
012.00	Starch, Polarimetric (Ewers) (%)	12	11	40.16	0.7642	40.16	0.8666	0.3266	2.16%	0.2323	1.58%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	9	9	38.56	1.827	38.56	2.071	0.8631	5.37%	0.6901	1.61%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	8	7	35.71	2.495	35.71	2.829	1.337	7.92%	0.4398	1.67%
012.11	Starch, NIR (%)	3	3	40.50	0.9543	40.50	0.9543	0.5510	2.36%	0.5300	1.57%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	2	2	38.98	0.7088						
012.99	Starch, Miscellaneous (%)	2	2	33.42	4.543						
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	36.49							
013.00	Fat, Pretreat, Acid hydrolysis (%)	20	20	4.075	0.5493	4.047	0.5359	0.1498	13.24%	0.2158	3.24%
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	13	13	4.221	0.5274	4.221	0.5980	0.2073	14.17%	0.1896	3.22%
013.02	Fat, Pretreat, Mojonier, Bak Ext, Acid hydrolysis (%)	11	11	4.822	0.6039	4.789	0.6081	0.2292	12.70%	0.2424	3.16%
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	7	7	3.828	0.4105	3.828	0.4655	0.2199	12.16%	0.2040	3.27%
013.08	Fat, Pretreat, Roese-Gottlieb Modified, Alkaline Hydrolysis (%)	1	1	1.800							
013.99	Fat, Pretreat, Miscellaneous (%)	1	1	3.185							
014.01	Fiber, Total Dietary, Enz-Grav (%)	1	1	24.63							
014.99	Fiber, Total Dietary, Miscellaneous (%)	1	1	16.91							
015.43	Aluminum, ICP, Microwave (ppm)	8	8	223.1	22.00	224.0	22.90	10.12	10.23%	6.622	7.08%
015.53	Aluminum, ICP-MS, Microwave (ppm)	3	3	217.0	13.03	217.0	13.03	7.521	6.00%	7.139	7.12%
015.41	Aluminum, ICP, Dry ash (ppm)	4	2	200.1	4.230	200.1	4.230			0.6424	7.21%
015.42	Aluminum, ICP, Open vessel (ppm)	2	2	117.5	27.61						
015.99	Aluminum, Miscellaneous (ppm)	1	1	124.0							

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017.43	Boron, ICP, Microwave (ppm)	8	7	8.049	0.7423	8.049	0.8418	0.3977	10.46%	0.2591	11.69%
017.41	Boron, ICP, Dry ash (ppm)	5	4	8.060	0.4056	8.060	0.4056	0.2342	5.03%	0.1974	11.69%
017.42	Boron, ICP, Open vessel (ppm)	4	4	8.108	1.141	8.108	1.141	0.5707	14.08%	0.7837	11.67%
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	7.624							
017.99	Boron, Miscellaneous (ppm)	1	1	10.45							
019.43	Calcium, ICP, Microwave (%)	35	35	1.032	0.0516	1.029	0.0484	0.0102	4.70%	0.0279	3.98%
019.42	Calcium, ICP, Open vessel (%)	20	20	1.034	0.0775	1.036	0.0815	0.0228	7.86%	0.0336	3.98%
019.41	Calcium, ICP, Dry ash (%)	17	17	1.011	0.0397	1.013	0.0394	0.0119	3.89%	0.0169	3.99%
019.31	Calcium, AAS, Dry ash (%)	14	13	1.031	0.0442	1.032	0.0466	0.0162	4.52%	0.0172	3.98%
019.08	Calcium, EDTA (%)	8	7	1.046	0.0352	1.044	0.0359	0.0170	3.44%	0.0129	3.97%
019.00	Calcium, Ox-Mn04 Vol. (%)	7	6	0.9630	0.0660	0.9758	0.0425	0.0217	4.36%	0.0294	4.01%
019.99	Calcium, Miscellaneous (%)	7	6	0.9792	0.0542	0.9805	0.0582	0.0297	5.94%	0.0140	4.01%
019.53	Calcium, ICP-MS, Microwave (%)	5	4	1.018	0.0453	1.018	0.0453	0.0226	4.45%	0.0462	3.99%
019.44	Calcium, ICP, Dry ash (%)	2	2	1.005	0.0354						
019.09	Calcium, Ion-selective electrode (%)	1	1	0.9825							
019.32	Calcium, AAS, Open vessel (%)	1	1	1.060							
019.33	Calcium, AAS, Microwave (%)	1	1	0.9750							
019.52	Calcium, ICP-MS, Open vessel (%)	1	1	1.076							
021.43	Cobalt, ICP, Microwave (ppm)	15	13	2.539	0.3811	2.560	0.3822	0.1325	14.93%	0.1027	13.89%
021.53	Cobalt, ICP-MS, Microwave (ppm)	7	7	2.599	0.2399	2.599	0.2721	0.1285	10.47%	0.1293	13.86%
021.41	Cobalt, ICP, Dry ash (ppm)	5	5	2.494	0.2365	2.494	0.2365	0.1058	9.48%	0.1398	13.94%
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	2.325	0.0354						
021.31	Cobalt, AAS, Dry ash (ppm)	1	1	1.868							
021.52	Cobalt, ICP-MS, Open vessel (ppm)	1	1	3.090							
022.43	Copper, ICP, Microwave (ppm)	30	30	67.07	9.222	65.75	4.909	1.120	7.47%	2.338	8.52%
022.42	Copper, ICP, Open vessel (ppm)	21	20	65.02	4.057	64.85	3.649	1.020	5.63%	2.137	8.54%
022.41	Copper, ICP, Dry ash (ppm)	13	13	57.68	6.764	57.01	5.890	2.042	10.33%	1.999	8.70%
022.31	Copper, AAS, Dry ash (ppm)	8	8	57.38	2.796	57.38	3.171	1.401	5.53%	0.4321	8.70%
022.99	Copper, Miscellaneous (ppm)	5	5	65.61	5.506	65.61	5.506	2.462	8.39%	2.108	8.52%
022.53	Copper, ICP-MS, Microwave (ppm)	5	4	64.98	2.140	64.98	2.140	1.235	3.29%	3.173	8.54%
022.44	Copper, ICP, Dry ash (ppm)	3	3	56.43	8.477	56.43	8.477	4.894	15.02%	3.420	8.72%
022.33	Copper, AAS, Microwave (ppm)	2	2	67.50	3.536						
022.32	Copper, AAS, Open vessel (ppm)	1	1	71.05							
022.52	Copper, ICP-MS, Open vessel (ppm)	1	1	69.45							
024.53	Iodine, ICP-MS, Microwave (ppm)	1	1	1.345							
025.43	Iron, ICP, Microwave (ppm)	33	33	435.2	48.31	435.1	30.60	6.658	7.03%	12.62	6.41%
025.42	Iron, ICP, Open vessel (ppm)	19	18	387.3	78.03	383.4	43.88	12.93	11.44%	8.610	6.53%
025.41	Iron, ICP, Dry ash (ppm)	15	15	400.1	34.60	401.6	35.18	11.36	8.76%	10.02	6.49%
025.31	Iron, AAS, Dry ash (ppm)	9	9	391.5	49.32	394.7	47.87	19.95	12.13%	12.36	6.51%
025.53	Iron, ICP-MS, Microwave (ppm)	5	4	421.2	15.00	421.2	15.00	8.657	3.56%	8.568	6.44%

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025.99	Iron, Miscellaneous (ppm)	4	4	396.5	20.13	396.5	20.13	10.06	5.08%	10.64	6.50%
025.33	Iron, AAS, Microwave (ppm)	1	1	447.3							
027.43	Magnesium, ICP, Microwave (%)	32	31	0.2477	0.0157	0.2480	0.0107	0.0024	4.33%	0.0114	4.93%
027.42	Magnesium, ICP, Open vessel (%)	20	19	0.2454	0.0130	0.2464	0.0112	0.0032	4.55%	0.0091	4.94%
027.41	Magnesium, ICP, Dry ash (%)	14	13	0.2408	0.0096	0.2414	0.0096	0.0033	3.97%	0.0032	4.95%
027.31	Magnesium, AAS, Dry ash (%)	7	6	0.2368	0.0202	0.2395	0.0163	0.0083	6.82%	0.0020	4.96%
027.99	Magnesium, Miscellaneous (%)	5	5	0.2380	0.0110	0.2380	0.0110	0.0049	4.60%	0.0100	4.96%
027.53	Magnesium, ICP-MS, Microwave (%)	5	4	0.2265	0.0499	0.2265	0.0499	0.0288	22.05%	0.0125	5.00%
027.44	Magnesium, ICP, Dry ash (%)	2	2	0.2393	0.0060						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.2350							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.2500							
027.52	Magnesium, ICP-MS, Open vessel (%)	1	1	0.2627							
028.43	Manganese, ICP, Microwave (ppm)	30	30	158.3	8.695	158.9	8.269	1.887	5.20%	5.094	7.46%
028.42	Manganese, ICP, Open vessel (ppm)	21	21	157.8	16.17	156.6	14.49	3.953	9.25%	5.382	7.48%
028.41	Manganese, ICP, Dry ash (ppm)	13	13	151.7	12.22	153.1	7.217	2.502	4.71%	3.615	7.50%
028.31	Manganese, AAS, Dry ash (ppm)	8	8	142.5	25.00	149.0	8.121	3.589	5.45%	3.331	7.53%
028.53	Manganese, ICP-MS, Microwave (ppm)	6	6	149.5	22.96	156.9	6.185	3.156	3.94%	9.150	7.47%
028.99	Manganese, Miscellaneous (ppm)	5	5	150.2	10.11	150.2	10.11	4.519	6.73%	5.426	7.52%
028.44	Manganese, ICP, Dry ash (ppm)	3	3	145.5	16.23	145.5	16.23	9.372	11.15%	2.967	7.56%
028.32	Manganese, AAS, Open vessel (ppm)	1	1	174.0							
028.33	Manganese, AAS, Microwave (ppm)	1	1	149.7							
028.52	Manganese, ICP-MS, Open vessel (ppm)	1	1	167.0							
030.01	Nitrate, Ion-selective electrode (%)	1	1	0.0021							
031.43	Phosphorus, ICP, Microwave (%)	31	31	0.7114	0.0375	0.7095	0.0373	0.0084	5.26%	0.0255	4.21%
031.01	Phosphorus, Photometric (%)	27	27	0.7021	0.0281	0.7039	0.0199	0.0048	2.82%	0.0172	4.22%
031.42	Phosphorus, ICP, Open vessel (%)	20	19	0.6967	0.0321	0.6972	0.0351	0.0101	5.04%	0.0098	4.22%
031.41	Phosphorus, ICP, Dry ash (%)	16	16	0.6942	0.0436	0.7009	0.0296	0.0093	4.23%	0.0173	4.22%
031.99	Phosphorus, Miscellaneous (%)	7	7	0.7021	0.0715	0.6869	0.0410	0.0194	5.97%	0.0100	4.23%
031.53	Phosphorus, ICP-MS, Microwave (%)	5	4	0.6215	0.1262	0.6215	0.1262	0.0631	20.31%	0.0182	4.30%
031.44	Phosphorus, ICP, Dry ash (%)	3	3	0.6934	0.0330	0.6934	0.0330	0.0190	4.76%	0.0126	4.23%
031.00	Phosphorus, Vol (%)	2	2	0.6700	0.0778						
031.03	Phosphorus, Autoanalyzer (%)	2	2	0.7070	0.0028						
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	1	1	0.7152							
031.06	Phosphorus, Hach Method (%)	1	1	0.5800							
031.52	Phosphorus, ICP-MS, Open vessel (%)	1	1	0.7206							
032.43	Potassium, ICP, Microwave (%)	33	33	0.9494	0.0540	0.9497	0.0484	0.0105	5.10%	0.0306	4.03%
032.42	Potassium, ICP, Open vessel (%)	18	18	0.9536	0.0573	0.9554	0.0606	0.0179	6.34%	0.0270	4.03%
032.41	Potassium, ICP, Dry ash (%)	14	14	0.9213	0.0593	0.9300	0.0467	0.0156	5.02%	0.0219	4.04%
032.31	Potassium, AAS, Dry ash (%)	6	6	0.9159	0.0731	0.9159	0.0828	0.0423	9.05%	0.0380	4.05%
032.53	Potassium, ICP-MS, Microwave (%)	5	5	0.8795	0.1374	0.8795	0.1374	0.0615	15.62%	0.0247	4.08%

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032.99	Potassium, Miscellaneous (%)	5	5	0.9204	0.0106	0.9204	0.0106	0.0048	1.16%	0.0232	4.05%
032.33	Potassium, AAS, Microwave (%)	2	2	0.9650	0.0566						
032.44	Potassium, ICP, Dry ash (%)	2	2	0.9645	0.0347						
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	0.9926	0.0312						
032.32	Potassium, AAS, Open vessel (%)	1	1	1.045							
033.01	Salt as chloride, Poten Cl (%)	26	26	0.8969	0.0181	0.8966	0.0183	0.0045	2.04%	0.0138	4.07%
033.00	Salt as chloride, Sol Cl (%)	13	12	0.8128	0.1900	0.8602	0.0475	0.0171	5.52%	0.0256	4.09%
033.99	Salt, Miscellaneous (%)	10	10	0.8189	0.0551	0.8219	0.0548	0.0216	6.66%	0.0250	4.12%
033.03	Salt as chloride, Quantab (%)	4	3	0.8500	0.0520	0.8500	0.0520				4.10%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	0.8250	0.0912	0.8250	0.0912	0.0645	11.06%		4.12%
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	10	10	2.074	0.7805	2.220	0.4878	0.1928	21.98%	0.1281	14.19%
034.04	Selenium, Total (Se), AA, Hydride (ppm)	3	3	1.736	0.6200	1.736	0.6200	0.3580	35.71%	0.0786	14.72%
034.41	Selenium, Total (Se), ICP, Dry ash (ppm)	2	2	1.591	1.010						
034.43	Selenium, Total (Se), ICP, Microwave (ppm)	3	2	6.453	5.851	6.453	5.851				12.08%
034.01	Selenium, Total (Se), Fluor (ppm)	1	1	2.305							
034.52	Selenium, Total (Se), ICP-MS, Open vessel (ppm)	1	1	2.730							
034.99	Selenium, Total (Se), Miscellaneous (ppm)	1	1	2.070							
034.42	Selenium, Total (Se), ICP, Open vessel (ppm)	1		1.285							
035.43	Sodium, ICP, Microwave (%)	23	22	0.3346	0.0224	0.3333	0.0148	0.0039	4.44%	0.0125	4.72%
035.42	Sodium, ICP, Open vessel (%)	18	18	0.3303	0.0343	0.3259	0.0208	0.0061	6.39%	0.0114	4.73%
035.41	Sodium, ICP, Dry ash (%)	14	14	0.3226	0.0105	0.3226	0.0119	0.0040	3.70%	0.0063	4.74%
035.99	Sodium, Miscellaneous (%)	6	6	0.3592	0.1226	0.3275	0.0132	0.0068	4.04%	0.0175	4.73%
035.31	Sodium, AAS, Dry ash (%)	5	5	0.3152	0.0501	0.3152	0.0501	0.0224	15.91%	0.0273	4.76%
035.53	Sodium, ICP-MS, Microwave (%)	4	3	0.3325	0.0022	0.3325	0.0022	0.0016	0.66%	0.0085	4.72%
035.02	Sodium, Em Spect (%)	1	1	0.3400							
035.05	Sodium, Flame Emission (%)	1	1	0.3200							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.2800							
035.33	Sodium, AAS, Microwave (%)	1	1	0.3300							
035.52	Sodium, ICP-MS, Open vessel (%)	1	1	0.3509							
036.43	Sulfur, ICP, Microwave (%)	24	23	0.3232	0.0306	0.3267	0.0246	0.0064	7.54%	0.0169	4.73%
036.42	Sulfur, ICP, Open vessel (%)	17	17	0.3077	0.0161	0.3091	0.0146	0.0044	4.73%	0.0099	4.77%
036.04	Sulfur, LECO (%)	5	5	0.3312	0.0385	0.3312	0.0385	0.0172	11.62%	0.0287	4.72%
036.53	Sulfur, ICP-MS, Microwave (%)	3	3	0.3032	0.0232	0.3032	0.0232	0.0134	7.67%	0.0055	4.79%
036.99	Sulfur, Miscellaneous (%)	2	2	0.3250	0.0212						
036.52	Sulfur, ICP-MS, Open vessel (%)	1	1	0.3367							
037.43	Zinc, ICP, Microwave (ppm)	32	32	221.9	30.23	225.0	19.12	4.224	8.50%	8.210	7.08%
037.42	Zinc, ICP, Open vessel (ppm)	20	19	224.3	25.11	223.7	24.74	7.094	11.06%	4.437	7.09%
037.41	Zinc, ICP, Dry ash (ppm)	13	13	219.5	11.20	219.8	12.01	4.164	5.46%	6.204	7.10%
037.31	Zinc, AAS, Dry ash (ppm)	8	8	222.2	15.19	223.0	12.62	5.577	5.66%	2.219	7.09%
037.99	Zinc, Miscellaneous (ppm)	5	5	216.5	20.11	216.5	20.11	8.992	9.29%	10.01	7.12%

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037.53	Zinc, ICP-MS, Microwave (ppm)	5	4	223.5	10.88	223.5	10.88	5.442	4.87%	4.107	7.09%
037.44	Zinc, ICP, Dry ash (ppm)	3	3	204.4	21.27	204.4	21.27	12.28	10.41%	9.400	7.18%
037.32	Zinc, AAS, Open vessel (ppm)	1	1	240.0							
037.33	Zinc, AAS, Microwave (ppm)	1	1	225.3							
037.52	Zinc, ICP-MS, Open vessel (ppm)	1	1	266.1							
038.43	Molybdenum, ICP, Microwave (ppm)	7	7	1.311	0.3409	1.311	0.3865	0.1826	29.48%	0.1702	15.36%
038.42	Molybdenum, ICP, Open vessel (ppm)	5	5	1.514	0.1807	1.514	0.1807	0.0808	11.93%	0.2920	15.03%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	4	3	1.534	0.0966	1.534	0.0966	0.0683	6.30%	0.0389	15.00%
038.41	Molybdenum, ICP, Dry ash (ppm)	2	2	1.385	0.0558						
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	1	1	1.315							
038.99	Molybdenum, Miscellaneous (ppm)	1	1	1.765							
040.53	Barium, ICP-MS, Microwave (ppm)	2	2	6.706	0.2088						
040.43	Barium, ICP, Microwave (ppm)	1	1	7.680							
041.53	Vanadium, ICP-MS, Microwave (ppm)	1	1	0.9545							
042.00	Chloride, Titrimetric (%)	9	8	0.5285	0.0550	0.5330	0.0254	0.0112	4.77%	0.0115	4.40%
042.99	Chloride, Miscellaneous (%)	3	3	0.5462	0.0464	0.5462	0.0464	0.0268	8.50%	0.0157	4.38%
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	1,405							
102.01	Niacin, Microbiological (ppm)	1	1	65.50							
102.02	Niacin, LC (ppm)	1	1	31.15							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	19.95							
104.00	Riboflavin, Fluorometric (ppm)	1	1	10.72							
104.03	Riboflavin, LC (ppm)	1	1	6.205							
105.00	Thiamine, LC (ppm)	1	1	2.910							
105.01	Thiamine, Fluorometer (ppm)	1	1	5.390							
106.02	Vitamin A, LC (KU / kg)	10	10	17.26	6.217	17.26	7.050	2.787	40.84%	3.321	
106.00	Vitamin A, Color (KU / kg)	1	1	15.10							
106.01	Vitamin A, UV (KU / kg)	1	1	13.10							
106.03	#N/A	1	1	11.92							
106.99	Vitamin A, Miscellaneous (KU / kg)	1		0.0000							
107.00	Vitamin B12, Microbiological (ppb)	1	1	20.40							
108.02	Vitamin D3, LC (KU / kg)	5	5	6.198	0.4404	6.198	0.4404	0.1969	7.10%	0.7408	
108.99	Vitamin D3, Miscellaneous (KU / kg)	2	1	5.710							
109.02	Vitamin E, LC (IU / kg)	9	8	76.87	10.25	77.94	8.987	3.972	11.53%	2.106	
109.99	Vitamin E, Miscellaneous (IU / kg)	2	2	84.00	9.192						
109.03	#N/A	1	1	73.87							
111.00	Vitamin C, Phosphorylated, LC (ppm)	1		4.400							
112.01	Pyridoxine, LC (µg / g)	2	2	3.335	1.124						
113.01	Folic Acid, Micro (ppm)	1	1	1.620							
113.02	Folic acid, LC (ppm)	1	1	0.8755							
114.99	Biotin, Miscellaneous (ppm)	1	1	0.2920							

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115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	2	2	1.194	1.522						
115.99	Non Protein N (NPN), Miscellaneous (%)	1	1	0.3655							
120.00	Alanine, Post-col Ninhydrin Der (%)	13	13	0.8270	0.0164	0.8270	0.0186	0.0065	2.25%	0.0076	4.12%
120.05	Alanine, Pre-col AQC Der (%)	10	10	0.8352	0.0552	0.8367	0.0406	0.0160	4.85%	0.0101	4.11%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.8315							
121.00	Arginine, Post-col Ninhydrin Der (%)	13	13	1.015	0.0316	1.015	0.0333	0.0116	3.28%	0.0134	3.99%
121.05	Arginine, Pre-col AQC Der (%)	10	10	1.033	0.0516	1.031	0.0540	0.0213	5.23%	0.0197	3.98%
121.02	Arginine, Post-col OPA Der (%)	1	1	0.9740							
122.00	Aspartic, Post-col Ninhydrin Der (%)	13	13	1.524	0.0262	1.524	0.0297	0.0103	1.95%	0.0155	3.75%
122.05	Aspartic, Pre-col AQC Der (%)	10	10	1.568	0.1831	1.540	0.1328	0.0525	8.63%	0.0208	3.75%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.492							
124.00	Cysteine/Cystine, PAO Post-col Ninhydry (%)	12	11	0.2719	0.0131	0.2710	0.0127	0.0048	4.68%	0.0040	4.87%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	10	9	0.2645	0.0326	0.2622	0.0315	0.0131	12.03%	0.0072	4.89%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	2	2	0.2680	0.0184						
125.00	Glutamic, Post-col Ninhydrin Der (%)	13	13	2.994	0.0594	2.990	0.0568	0.0197	1.90%	0.0497	3.39%
125.05	Glutamic, Pre-col AQC Der (%)	10	10	3.003	0.1921	3.020	0.1742	0.0688	5.77%	0.0441	3.39%
125.02	Glutamic, Post-col OPA Der (%)	1	1	3.016							
126.00	Glycine, Post-col Ninhydrin Der (%)	13	13	0.7072	0.0128	0.7073	0.0143	0.0050	2.03%	0.0092	4.21%
126.05	Glycine, Pre-col AQC Der (%)	10	10	0.7189	0.0196	0.7189	0.0221	0.0087	3.07%	0.0089	4.20%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.7075							
127.00	Histidine, Post-col Ninhydrin Der (%)	13	13	0.4238	0.0200	0.4247	0.0170	0.0059	4.00%	0.0079	4.55%
127.05	Histidine, Pre-col AQC Der (%)	10	9	0.4174	0.0217	0.4175	0.0243	0.0101	5.83%	0.0055	4.56%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.4075							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	13	13	0.6372	0.0242	0.6373	0.0271	0.0094	4.26%	0.0174	4.28%
128.05	Isoleucine, Pre-col AQC Der (%)	10	10	0.6446	0.0542	0.6446	0.0614	0.0243	9.53%	0.0140	4.27%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.6745							
129.00	Leucine, Post-col Ninhydrin Der (%)	13	13	1.318	0.0245	1.318	0.0278	0.0096	2.11%	0.0175	3.84%
129.05	Leucine, Pre-col AQC Der (%)	10	10	1.319	0.0486	1.319	0.0547	0.0216	4.14%	0.0137	3.84%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.300							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	15	15	0.7979	0.0290	0.7978	0.0276	0.0089	3.46%	0.0084	4.14%
130.05	L-Lysine, Pre-col AQC Der (%)	10	10	0.8010	0.0708	0.8010	0.0803	0.0317	10.02%	0.0101	4.14%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.8095							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	12	12	0.2550	0.0177	0.2525	0.0080	0.0029	3.16%	0.0050	4.92%
131.05	Methionine, PAO Pre-col AQC Der (%)	10	10	0.2542	0.0412	0.2488	0.0252	0.0100	10.15%	0.0044	4.93%
131.02	Methionine, PAO Post-col OPA Der (%)	2	2	0.2568	0.0117						
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	13	13	0.7652	0.0278	0.7655	0.0263	0.0091	3.43%	0.0102	4.16%
132.05	Phenylalanine, Pre-col AQC Der (%)	10	10	0.7653	0.0470	0.7651	0.0517	0.0204	6.76%	0.0197	4.16%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.7570							
133.00	Proline, Post-col Ninhydrin Der (%)	13	13	0.9997	0.0398	0.9996	0.0436	0.0151	4.36%	0.0155	4.00%
133.05	Proline, Pre-col AQC Der (%)	10	10	1.001	0.0436	1.001	0.0494	0.0195	4.93%	0.0087	4.00%

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134.00	Serine, Post-col Ninhydrin Der (%)	13	13	0.7624	0.0285	0.7660	0.0144	0.0050	1.87%	0.0136	4.16%
134.05	Serine, Pre-col AQC Der (%)	9	8	0.7990	0.0519	0.7969	0.0540	0.0239	6.78%	0.0078	4.14%
134.02	Serine, Post-col OPA Der (%)	1	1	0.6645							
135.00	Threonine, Post-col Ninhydrin Der (%)	13	13	0.5941	0.0167	0.5965	0.0130	0.0045	2.18%	0.0086	4.32%
135.05	Threonine, Pre-col AQC Der (%)	10	9	0.6206	0.0417	0.6203	0.0467	0.0194	7.52%	0.0077	4.30%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.5435							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	7	7	0.2122	0.0164	0.2110	0.0158	0.0075	7.51%	0.0020	5.05%
136.05	Tryptophan, Pre-col AQC Der (%)	6	6	0.1806	0.0184	0.1806	0.0209	0.0107	11.56%	0.0054	5.17%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.2184	0.0288	0.2184	0.0288	0.0204	13.18%		5.03%
136.99	Tryptophan, Miscellaneous (%)	2	2	0.1890	0.0198						
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	1	1	0.2325							
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2016							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	11	11	0.5143	0.0446	0.5199	0.0356	0.0134	6.86%	0.0162	4.41%
137.05	Tyrosine, Pre-col AQC Der (%)	10	10	0.4997	0.0582	0.4958	0.0554	0.0219	11.18%	0.0224	4.45%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.4665							
138.00	Valine, Post-col Ninhydrin Der (%)	13	13	0.7522	0.0199	0.7530	0.0197	0.0068	2.61%	0.0201	4.17%
138.05	Valine, Pre-col AQC Der (%)	10	10	0.7501	0.0555	0.7511	0.0489	0.0193	6.50%	0.0142	4.18%
138.02	Valine, Post-col OPA Der (%)	1	1	0.8055							
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.1625	0.0884						
139.05	Taurine, Pre-col AQC Der (%)	2	1	0.0895							
139.02	Taurine, Post-col OPA Der (%)	2		0.0100							
160.10	Fructose, HPAEC PAD (%)	2	2	0.3100	0.0354						
160.99	Fructose, Miscellaneous (%)	1	1	0.5050							
161.10	Galactose, HPAEC PAD (%)	2	1	0.0040							
162.10	Glucose, HPAEC PAD (%)	2	2	0.3025	0.0106						
162.99	Glucose, Miscellaneous (%)	2	2	2.878	3.426						
163.10	Lactose, HPAEC PAD (%)	2	2	0.1125	0.0106						
163.99	Lactose, Miscellaneous (%)	1		0.1500							
164.10	Maltose, HPAEC PAD (%)	2	2	0.2550	0.0141						
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.10	Sucrose, HPAEC PAD (%)	2	2	2.548	0.0601						
165.99	Sucrose, Miscellaneous (%)	1	1	2.445							
166.10	Raffinose, HPAEC PAD (%)	2	2	0.4275	0.0248						
166.99	Raffinose, Miscellaneous (%)	1	1	0.3800							
167.10	Stachyose, HPAEC PAD (%)	2	2	0.9800	0.0707						
167.99	Stachyose, Miscellaneous (%)	1	1	1.395							
391.00	Narasin, LC-PCD (ppm)	3	3	174.2	81.66	174.2	81.66	47.15	46.89%	10.10	7.36%
391.01	Narasin, LC (ppm)	2	2	215.1	21.07						
391.03	Narasin, LC-MS/MS (ppm)	2	2	173.5	73.50						
391.99	Narasin, Miscellaneous (ppm)	2	2	208.0	18.56						

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400.01	Water Activity, Aqualab chilled mirror (Units)	9	8	0.4991	0.0219	0.4943	0.0117	0.0052	2.36%	0.0073	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.4665	0.0368						
516.00	Arsenic, Total (As), AA, Hydride (ppm)	2	2	0.0946	0.0638						
516.53	Arsenic, Total (As), ICP-MS, Microwave (ppm)	2	2	0.1424	0.1046						
516.52	Arsenic, Total (As), ICP-MS, Open vessel (ppm)	1	1	0.0771							
516.43	Arsenic, Total (As), ICP, Microwave (ppm)	1		20.00							
518.53	Cadmium, ICP-MS, Microwave (ppm)	3	3	0.1161	0.0072	0.1161	0.0072	0.0041	6.18%	0.0014	22.00%
518.43	Cadmium, ICP, Microwave (ppm)	2	2	0.1297	0.0004						
518.31	Cadmium, AAS, Dry ash (ppm)	1	1	0.0709							
518.33	Cadmium, AAS, Microwave (ppm)	1	1	0.1200							
518.34	Cadmium, AAS, Graphite furnace (ppm)	1	1	0.1068							
518.41	Cadmium, ICP, Dry ash (ppm)	1	1	0.1206							
518.52	Cadmium, ICP-MS, Open vessel (ppm)	1	1	0.1181							
520.43	Chromium, Total (Cr), ICP, Microwave (ppm)	6	5	6.616	0.6323	6.616	0.6323	0.2466	9.56%	0.1362	12.04%
520.53	Chromium, Total (Cr), ICP-MS, Microwave (ppm)	3	3	5.878	0.2881	5.878	0.2881	0.1664	4.90%	0.5394	12.25%
520.41	Chromium, Total (Cr), ICP, Dry ash (ppm)	1	1	4.557							
520.42	Chromium, Total (Cr), ICP, Open vessel (ppm)	1	1	5.870							
520.52	Chromium, Total (Cr), ICP-MS, Open vessel (ppm)	1	1	4.187							
526.43	Lead, ICP, Microwave (ppm)	2	2	0.7371	0.7678						
526.53	Lead, ICP-MS, Microwave (ppm)	2	2	0.0851	0.0088						
526.31	Lead, AAS, Dry ash (ppm)	1	1	0.4055							
526.41	Lead, ICP, Dry ash (ppm)	1	1	0.1962							
526.52	Lead, ICP-MS, Open vessel (ppm)	1	1	0.1016							
526.34	Lead, AAS, Graphite furnace (ppm)	1		0.1353							
529.99	Mercury, Miscellaneous (ppb)	3	3	550.4	943.6	550.4	943.6	667.2	171.45%	1.153	17.50%
529.00	Mercury, Cold vapor (ppb)	1	1	133.5							
539.43	Nickel, ICP, Microwave (ppm)	6	6	6.268	6.840	3.952	1.534	0.7828	38.81%	0.3466	13.01%
539.53	Nickel, ICP-MS, Microwave (ppm)	3	3	2.717	0.0903	2.717	0.0903	0.0521	3.32%	0.2054	13.76%
539.41	Nickel, ICP, Dry ash (ppm)	1	1	2.462							
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	1.906							
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0000							
704.00	Caproic Acid (6:0) , Miscellaneous GC (%)	1		0.0005							
706.99	Caprylic acid (8:0), Miscellaneous (%) (w/w))	1		0.0000							
708.99	Capric acid (10:0), Miscellaneous (%) (w/w))	1		0.0000							
710.99	Lauric Acid (12:0), Miscellaneous (%) (w/w))	2	1	0.0010							
714.99	Myristic Acid (14:0), Miscellaneous (%) (w/w))	2	2	0.0051	0.0001						
716.99	Palmitic Acid (16:0), Miscellaneous (%) (w/w))	2	2	0.5680	0.0233						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (%) (w/w))	2	2	0.0074	0.0006						
720.99	Margaric acid (17:0), Miscellaneous (%) (w/w))	1	1	0.0040							
722.99	Stearic Acid (18:0), Miscellaneous (%) (w/w))	2	2	0.1014	0.0097						

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724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.8266	0.0581						
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	2	2	1.923	0.1183						
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	2	2	0.1300	0.0120						
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	2	0.0118	0.0003						
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	2	0.0133	0.0018						
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1		0.0000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	2		0.0000							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	2	0.0086	0.0001						
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	2	1	0.0020							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	2	1	0.0020							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	2	2	0.0093	0.0011						
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	2		0.0005							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	2		0.0035							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	1	1	0.1250							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	1	1	1.844							
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.6895							
764.99	Total cis Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.8555							
768.99	Total cis Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.975							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	3.697							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	3.649	0.1614						

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

Pig Feed, Medicated

Test Material Code # 202529

Method Precision Report

Methods Reported: 136

Labs Reporting: 155

Issue Date : 10/31/2025

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 (%)	42	40	8.865	0.2310	0.1766	0.1144	0.2104	1.99%	1.29%	2.37%	1.839
001.99	Loss on Drying, Miscellaneous (%)	17	15	8.744	0.5101	0.3746	0.0905	0.3853	4.33%	1.05%	4.45%	4.259
002.01	Protein, Crude, Auto Kjel-Foss (%)	17	14	16.57	0.2013	0.1330	0.0383	0.1384	0.80%	0.23%	0.84%	3.611
002.05	Protein, Crude, Copper, Boric Acid (%)	19	18	16.56	0.2754	0.1320	0.0725	0.1506	0.79%	0.44%	0.91%	2.077
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	111	103	16.72	0.3020	0.2396	0.1219	0.2688	1.43%	0.73%	1.61%	2.205
002.11	Protein, Crude, NIR (%)	7	6	15.10	3.711	0.6827	0.1282	0.6946	4.14%	0.78%	4.21%	5.419
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	10	10	3.266	0.2469	0.2422	0.0675	0.2514	7.42%	2.07%	7.70%	3.727
003.06	Fat, Crude, Pet Ether (%)	14	14	3.364	0.2582	0.2486	0.0987	0.2675	7.39%	2.93%	7.95%	2.710
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	9	9	3.451	0.2056	0.1983	0.0765	0.2126	5.75%	2.22%	6.16%	2.778
003.10	Fat, Crude, Randall, Pet Ether (%)	25	23	3.420	0.2711	0.1909	0.0562	0.1990	5.65%	1.66%	5.89%	3.540
003.11	Fat, Crude, NIR (%)	7	7	3.594	0.1438	0.1390	0.0522	0.1485	3.87%	1.45%	4.13%	2.843
003.14	Fat, Crude, Ankom (%)	52	49	3.138	0.4203	0.3788	0.0975	0.3911	11.96%	3.08%	12.35%	4.010
004.00	Fiber, Crude, Asbestos Free (%)	8	8	3.757	0.4327	0.4295	0.0737	0.4358	11.43%	1.96%	11.60%	5.913
004.06	Fiber, Crude, Fibertec (%)	19	18	3.615	0.4117	0.4033	0.1173	0.4200	11.16%	3.24%	11.62%	3.581
004.07	Fiber, Crude, ANKOM (%)	77	72	3.458	0.3188	0.2968	0.1195	0.3199	8.55%	3.44%	9.22%	2.677
004.11	Fiber, Crude, NIR (%)	6	5	3.909	0.4200	0.1605	0.1190	0.1998	4.28%	3.17%	5.33%	1.680
005.00	Ash, 2h @ 600°C (%)	83	77	6.467	0.2280	0.1416	0.0553	0.1520	2.18%	0.85%	2.34%	2.750
005.05	Ash, 3h @ 550°C (%)	27	26	6.673	0.1526	0.1473	0.0564	0.1577	2.21%	0.85%	2.36%	2.796
005.11	Ash, NIR (%)	6	6	6.587	1.309	1.307	0.0788	1.310	19.85%	1.20%	19.89%	16.61
008.02	Fiber, Acid Detergent, Crucible (%)	11	11	5.202	0.3675	0.3493	0.1614	0.3848	6.72%	3.10%	7.40%	2.384
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	48	44	4.913	0.5010	0.4395	0.1745	0.4729	8.98%	3.56%	9.66%	2.710
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	11	14.21	1.196	1.172	0.3364	1.219	8.25%	2.37%	8.58%	3.624
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	39	13.18	0.8715	0.7675	0.2711	0.8140	5.86%	2.07%	6.21%	3.002
010.11	Moisture, NIR (%)	5	5	9.764	0.6808	0.6794	0.0615	0.6822	6.96%	0.63%	6.99%	11.10
010.99	Moisture, Miscellaneous (%)	16	16	8.907	0.6484	0.6394	0.1527	0.6573	7.18%	1.71%	7.38%	4.305
011.01	Loss on Drying, HT, 135°C 2hr (%)	59	54	9.838	0.4879	0.4203	0.1014	0.4324	4.25%	1.03%	4.38%	4.265
012.00	Starch, Polarimetric (Ewers) (%)	12	11	40.16	0.7642	0.7519	0.1932	0.7763	1.87%	0.48%	1.93%	4.018
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	8	7	35.71	2.495	2.477	0.4167	2.512	6.94%	1.17%	7.04%	6.029

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
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	9	8	38.56	1.827	1.762	0.4511	1.819	4.60%	1.18%	4.75%	4.031
013.00	Fat, Pretreat, Acid hydrolysis (%)	20	18	4.075	0.5493	0.3964	0.1817	0.4360	9.79%	4.49%	10.77%	2.400
013.02	Fat, Pretreat, Mojonner, Bak Ext, Acid hydrolysis (%)	11	10	4.822	0.6039	0.5816	0.1516	0.6011	12.23%	3.19%	12.64%	3.964
013.10	Fat, Pretreat, Soxtec-Acid Hydrolysis (%)	7	7	3.828	0.4105	0.3965	0.1507	0.4241	10.36%	3.94%	11.08%	2.815
013.13	Fat, Pretreat, Ankom- Acid Hydrolysis (%)	13	12	4.221	0.5274	0.5250	0.2057	0.5638	12.50%	4.90%	13.43%	2.742
015.43	Aluminum, ICP, Microwave (ppm)	8	8	223.1	22.00	21.55	6.271	22.44	9.66%	2.81%	10.06%	3.579
017.43	Boron, ICP, Microwave (ppm)	8	6	8.049	0.7423	0.7450	0.1428	0.7585	9.38%	1.80%	9.55%	5.313
019.00	Calcium, Ox-Mn04 Vol. (%)	7	5	0.9630	0.0660	0.0155	0.0244	0.0289	1.57%	2.46%	2.92%	1.185
019.08	Calcium, EDTA (%)	8	7	1.046	0.0352	0.0348	0.0075	0.0356	3.32%	0.72%	3.40%	4.738
019.31	Calcium, AAS, Dry ash (%)	14	13	1.031	0.0442	0.0433	0.0120	0.0450	4.20%	1.17%	4.36%	3.733
019.41	Calcium, ICP, Dry ash (%)	17	16	1.011	0.0397	0.0305	0.0145	0.0338	3.00%	1.43%	3.33%	2.325
019.42	Calcium, ICP, Open vessel (%)	20	19	1.034	0.0775	0.0751	0.0281	0.0802	7.24%	2.70%	7.73%	2.857
019.43	Calcium, ICP, Microwave (%)	35	32	1.032	0.0516	0.0388	0.0211	0.0441	3.79%	2.06%	4.31%	2.093
019.99	Calcium, Miscellaneous (%)	7	6	0.9792	0.0542	0.0537	0.0096	0.0546	5.49%	0.98%	5.58%	5.702
021.41	Cobalt, ICP, Dry ash (ppm)	5	5	2.494	0.2365	0.2200	0.1227	0.2520	8.82%	4.92%	10.10%	2.053
021.43	Cobalt, ICP, Microwave (ppm)	15	13	2.539	0.3811	0.3758	0.0892	0.3863	14.80%	3.51%	15.21%	4.332
021.53	Cobalt, ICP-MS, Microwave (ppm)	7	7	2.599	0.2399	0.2285	0.1036	0.2509	8.79%	3.99%	9.65%	2.422
022.31	Copper, AAS, Dry ash (ppm)	8	8	57.38	2.796	2.786	0.3435	2.807	4.85%	0.60%	4.89%	8.171
022.41	Copper, ICP, Dry ash (ppm)	13	12	57.68	6.764	4.530	1.563	4.792	8.05%	2.78%	8.52%	3.066
022.42	Copper, ICP, Open vessel (ppm)	21	19	65.02	4.057	3.784	1.937	4.251	5.84%	2.99%	6.56%	2.194
022.43	Copper, ICP, Microwave (ppm)	30	27	67.07	9.222	4.220	2.154	4.738	6.52%	3.33%	7.32%	2.200
022.99	Copper, Miscellaneous (ppm)	5	5	65.61	5.506	5.382	1.641	5.627	8.20%	2.50%	8.58%	3.429
025.31	Iron, AAS, Dry ash (ppm)	9	9	391.5	49.32	48.85	9.581	49.78	12.48%	2.45%	12.72%	5.196
025.41	Iron, ICP, Dry ash (ppm)	15	14	400.1	34.60	34.74	12.42	36.89	8.69%	3.11%	9.23%	2.969
025.42	Iron, ICP, Open vessel (ppm)	19	16	387.3	78.03	61.56	8.126	62.09	15.27%	2.02%	15.40%	7.641
025.43	Iron, ICP, Microwave (ppm)	33	30	435.2	48.31	27.50	11.29	29.73	6.31%	2.59%	6.82%	2.633
027.31	Magnesium, AAS, Dry ash (%)	7	5	0.2368	0.0202	0.0089	0.0013	0.0090	3.62%	0.55%	3.66%	6.660
027.41	Magnesium, ICP, Dry ash (%)	14	12	0.2408	0.0096	0.0098	0.0012	0.0099	4.07%	0.51%	4.10%	8.015
027.42	Magnesium, ICP, Open vessel (%)	20	17	0.2454	0.0130	0.0084	0.0073	0.0111	3.38%	2.94%	4.48%	1.524
027.43	Magnesium, ICP, Microwave (%)	32	29	0.2477	0.0157	0.0117	0.0081	0.0142	4.75%	3.28%	5.78%	1.759
027.99	Magnesium, Miscellaneous (%)	5	5	0.2380	0.0110	0.0100	0.0063	0.0118	4.20%	2.66%	4.97%	1.871
028.31	Manganese, AAS, Dry ash (ppm)	8	7	142.5	25.00	5.967	2.601	6.509	3.95%	1.72%	4.31%	2.503
028.41	Manganese, ICP, Dry ash (ppm)	13	12	151.7	12.22	6.442	3.352	7.262	4.17%	2.17%	4.70%	2.167
028.42	Manganese, ICP, Open vessel (ppm)	21	19	157.8	16.17	11.52	4.230	12.27	7.45%	2.74%	7.94%	2.900
028.43	Manganese, ICP, Microwave (ppm)	30	28	158.3	8.695	7.095	4.880	8.612	4.47%	3.07%	5.42%	1.765
028.53	Manganese, ICP-MS, Microwave (ppm)	6	5	149.5	22.96		7.955			5.01%		
028.99	Manganese, Miscellaneous (ppm)	5	5	150.2	10.11	9.655	4.220	10.54	6.43%	2.81%	7.02%	2.497
031.01	Phosphorus, Photometric (%)	27	25	0.7021	0.0281	0.0217	0.0106	0.0242	3.08%	1.51%	3.43%	2.275

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs SL	Within Labs sr	Reproducibility SR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
031.41	Phosphorus, ICP, Dry ash (%)	16	15	0.6942	0.0436	0.0248	0.0103	0.0269	3.53%	1.47%	3.82%	2.606
031.42	Phosphorus, ICP, Open vessel (%)	20	18	0.6967	0.0321	0.0315	0.0085	0.0326	4.50%	1.22%	4.67%	3.819
031.43	Phosphorus, ICP, Microwave (%)	31	30	0.7114	0.0375	0.0298	0.0195	0.0356	4.22%	2.75%	5.04%	1.829
031.99	Phosphorus, Miscellaneous (%)	7	6	0.7021	0.0715	0.0253	0.0099	0.0271	3.73%	1.46%	4.01%	2.741
032.31	Potassium, AAS, Dry ash (%)	6	5	0.9159	0.0731	0.0767	0.0123	0.0777	8.47%	1.36%	8.58%	6.326
032.41	Potassium, ICP, Dry ash (%)	14	14	0.9213	0.0593	0.0578	0.0183	0.0607	6.28%	1.99%	6.58%	3.306
032.42	Potassium, ICP, Open vessel (%)	18	17	0.9536	0.0573	0.0557	0.0219	0.0598	5.86%	2.30%	6.29%	2.735
032.43	Potassium, ICP, Microwave (%)	33	30	0.9494	0.0540	0.0354	0.0218	0.0416	3.71%	2.29%	4.37%	1.903
032.53	Potassium, ICP-MS, Microwave (%)	5	5	0.8795	0.1374	0.1365	0.0228	0.1384	15.52%	2.60%	15.73%	6.057
032.99	Potassium, Miscellaneous (%)	5	5	0.9204	0.0106		0.0176			1.91%		
033.00	Salt as chloride, Sol Cl (%)	13	11	0.8128	0.1900	0.0344	0.0195	0.0396	3.97%	2.25%	4.57%	2.027
033.01	Salt as chloride, Poten Cl (%)	26	26	0.8969	0.0181	0.0171	0.0083	0.0190	1.91%	0.93%	2.12%	2.280
033.99	Salt, Miscellaneous (%)	10	10	0.8189	0.0551	0.0529	0.0216	0.0571	6.46%	2.64%	6.98%	2.646
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	10	9	2.074	0.7805	0.3822	0.1141	0.3988	16.68%	4.98%	17.41%	3.496
035.31	Sodium, AAS, Dry ash (%)	5	5	0.3152	0.0501	0.0488	0.0161	0.0514	15.49%	5.11%	16.31%	3.194
035.41	Sodium, ICP, Dry ash (%)	14	14	0.3226	0.0105	0.0099	0.0049	0.0111	3.08%	1.51%	3.43%	2.271
035.42	Sodium, ICP, Open vessel (%)	18	17	0.3303	0.0343	0.0203	0.0097	0.0225	6.28%	2.98%	6.95%	2.330
035.43	Sodium, ICP, Microwave (%)	23	21	0.3346	0.0224	0.0143	0.0097	0.0172	4.31%	2.93%	5.21%	1.779
036.04	Sulfur, LECO (%)	5	5	0.3312	0.0385	0.0366	0.0166	0.0402	11.06%	5.01%	12.14%	2.423
036.42	Sulfur, ICP, Open vessel (%)	17	16	0.3077	0.0161	0.0098	0.0096	0.0138	3.17%	3.10%	4.43%	1.431
036.43	Sulfur, ICP, Microwave (%)	24	22	0.3232	0.0306	0.0207	0.0132	0.0246	6.32%	4.04%	7.50%	1.856
037.31	Zinc, AAS, Dry ash (ppm)	8	8	222.2	15.19	15.12	2.082	15.27	6.80%	0.94%	6.87%	7.334
037.41	Zinc, ICP, Dry ash (ppm)	13	13	219.5	11.20	10.66	4.876	11.72	4.86%	2.22%	5.34%	2.404
037.42	Zinc, ICP, Open vessel (ppm)	20	18	224.3	25.11	23.47	3.581	23.74	10.57%	1.61%	10.70%	6.629
037.43	Zinc, ICP, Microwave (ppm)	32	30	221.9	30.23	18.83	8.247	20.56	8.36%	3.66%	9.12%	2.493
037.99	Zinc, Miscellaneous (ppm)	5	5	216.5	20.11	19.18	8.522	20.99	8.86%	3.94%	9.69%	2.463
038.42	Molybdenum, ICP, Open vessel (ppm)	5	5	1.514	0.1807		0.2662			17.58%		
038.43	Molybdenum, ICP, Microwave (ppm)	7	7	1.311	0.3409	0.3235	0.1520	0.3574	24.67%	11.59%	27.25%	2.351
042.00	Chloride, Titrimetric (%)	9	8	0.5285	0.0550	0.0547	0.0085	0.0554	10.35%	1.61%	10.47%	6.499
106.02	Vitamin A, LC (KU / kg)	10	9	17.26	6.217	5.229	2.149	5.653	32.37%	13.31%	35.00%	2.630
108.02	Vitamin D3, LC (KU / kg)	5	5	6.198	0.4404	0.0742	0.6139	0.6183	1.20%	9.90%	9.98%	1.007
109.02	Vitamin E, LC (IU / kg)	9	7	76.87	10.25	10.98	1.276	11.06	14.23%	1.65%	14.32%	8.670
120.00	Alanine, Post-col Ninhydrin Der (%)	13	13	0.8270	0.0164	0.0159	0.0058	0.0169	1.92%	0.71%	2.05%	2.898
120.05	Alanine, Pre-col AQC Der (%)	10	10	0.8352	0.0552	0.0549	0.0072	0.0554	6.58%	0.87%	6.63%	7.647
121.00	Arginine, Post-col Ninhydrin Der (%)	13	13	1.015	0.0316	0.0304	0.0123	0.0328	3.00%	1.21%	3.23%	2.665
121.05	Arginine, Pre-col AQC Der (%)	10	10	1.033	0.0516	0.0507	0.0137	0.0525	4.91%	1.33%	5.08%	3.823
122.00	Aspartic, Post-col Ninhydrin Der (%)	13	12	1.524	0.0262	0.0263	0.0104	0.0283	1.73%	0.68%	1.86%	2.729
122.05	Aspartic, Pre-col AQC Der (%)	10	8	1.568	0.1831	0.1058	0.0072	0.1061	6.96%	0.47%	6.97%	14.70

Test Material Code # 202529
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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
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	12	10	0.2719	0.0131	0.0124	0.0020	0.0126	4.53%	0.74%	4.59%	6.186
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	10	8	0.2645	0.0326	0.0227	0.0041	0.0231	8.87%	1.61%	9.01%	5.598
125.00	Glutamic, Post-col Ninhydrin Der (%)	13	12	2.994	0.0594	0.0363	0.0377	0.0523	1.22%	1.26%	1.75%	1.388
125.05	Glutamic, Pre-col AQC Der (%)	10	8	3.003	0.1921	0.1390	0.0172	0.1401	4.56%	0.57%	4.60%	8.129
126.00	Glycine, Post-col Ninhydrin Der (%)	13	12	0.7072	0.0128	0.0111	0.0081	0.0137	1.57%	1.14%	1.94%	1.704
126.05	Glycine, Pre-col AQC Der (%)	10	9	0.7189	0.0196	0.0203	0.0041	0.0207	2.82%	0.57%	2.87%	5.057
127.00	Histidine, Post-col Ninhydrin Der (%)	13	12	0.4238	0.0200	0.0146	0.0055	0.0156	3.41%	1.28%	3.64%	2.846
127.05	Histidine, Pre-col AQC Der (%)	10	9	0.4174	0.0217	0.0215	0.0034	0.0218	5.16%	0.82%	5.22%	6.383
128.00	Isoleucine, Post-col Ninhydrin Der (%)	13	13	0.6372	0.0242	0.0221	0.0138	0.0261	3.47%	2.16%	4.09%	1.892
128.05	Isoleucine, Pre-col AQC Der (%)	10	9	0.6446	0.0542	0.0568	0.0075	0.0573	8.78%	1.16%	8.86%	7.657
129.00	Leucine, Post-col Ninhydrin Der (%)	13	13	1.318	0.0245	0.0220	0.0155	0.0269	1.67%	1.18%	2.04%	1.734
129.05	Leucine, Pre-col AQC Der (%)	10	9	1.319	0.0486	0.0455	0.0059	0.0459	3.43%	0.45%	3.46%	7.719
130.00	L-Lysine, Post-col Ninhydrin Der (%)	15	15	0.7979	0.0290	0.0285	0.0070	0.0294	3.58%	0.88%	3.68%	4.183
130.05	L-Lysine, Pre-col AQC Der (%)	10	10	0.8010	0.0708	0.0706	0.0063	0.0709	8.82%	0.79%	8.85%	11.27
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	12	11	0.2550	0.0177	0.0082	0.0032	0.0088	3.26%	1.27%	3.50%	2.753
131.05	Methionine, PAO Pre-col AQC Der (%)	10	9	0.2542	0.0412	0.0223	0.0027	0.0225	9.17%	1.11%	9.24%	8.344
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	13	13	0.7652	0.0278	0.0273	0.0072	0.0283	3.57%	0.94%	3.69%	3.949
132.05	Phenylalanine, Pre-col AQC Der (%)	10	9	0.7653	0.0470	0.0482	0.0112	0.0495	6.28%	1.46%	6.45%	4.421
133.00	Proline, Post-col Ninhydrin Der (%)	13	12	0.9997	0.0398	0.0378	0.0102	0.0392	3.77%	1.01%	3.90%	3.858
133.05	Proline, Pre-col AQC Der (%)	10	10	1.001	0.0436	0.0434	0.0067	0.0439	4.33%	0.67%	4.38%	6.563
134.00	Serine, Post-col Ninhydrin Der (%)	13	12	0.7624	0.0285	0.0129	0.0101	0.0164	1.68%	1.31%	2.13%	1.626
134.05	Serine, Pre-col AQC Der (%)	9	8	0.7990	0.0519	0.0518	0.0051	0.0520	6.48%	0.63%	6.51%	10.26
135.00	Threonine, Post-col Ninhydrin Der (%)	13	12	0.5941	0.0167	0.0164	0.0055	0.0173	2.76%	0.93%	2.91%	3.130
135.05	Threonine, Pre-col AQC Der (%)	10	8	0.6206	0.0417	0.0338	0.0028	0.0339	5.53%	0.46%	5.55%	12.02
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	7	7	0.2122	0.0164	0.0164	0.0011	0.0164	7.73%	0.54%	7.75%	14.31
136.05	Tryptophan, Pre-col AQC Der (%)	6	6	0.1806	0.0184	0.0182	0.0036	0.0186	10.09%	2.01%	10.29%	5.124
137.00	Tyrosine, Post-col Ninhydrin Der (%)	11	10	0.5143	0.0446	0.0262	0.0110	0.0284	4.99%	2.10%	5.42%	2.581
137.05	Tyrosine, Pre-col AQC Der (%)	10	10	0.4997	0.0582	0.0572	0.0146	0.0590	11.45%	2.91%	11.82%	4.056
138.00	Valine, Post-col Ninhydrin Der (%)	13	13	0.7522	0.0199	0.0157	0.0171	0.0233	2.09%	2.28%	3.09%	1.357
138.05	Valine, Pre-col AQC Der (%)	10	10	0.7501	0.0555	0.0549	0.0116	0.0561	7.32%	1.54%	7.48%	4.842
400.01	Water Activity, Aqualab chilled mirror (Units)	9	7	0.4991	0.0219	0.0074	0.0047	0.0087	1.50%	0.96%	1.78%	1.854
539.43	Nickel, ICP, Microwave (ppm)	6	5	6.268	6.840	0.8051	0.3186	0.8659	23.05%	9.12%	24.79%	2.718

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