

AAFCO
Proficiency Testing Program



Animal Feed Scheme
Chicken Feed, Medicated
Test Material Code # 202029

Method Summary Report
(Precision Report Follows)

Labs Reporting: 179
Methods Reported: 382
Issue Date : 10/31/2020

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO #fp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	1	1	0.4000							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	44	43	9.619	0.7081	9.747	0.3429	0.0654	3.52%	0.0976	2.84%
001.99	Loss on Drying, Miscellaneous (%)	23	23	9.528	0.5147	9.551	0.4420	0.1152	4.63%	0.1757	2.85%
001.03	Loss on Drying, Low temp. methods (%)	8	8	9.940	0.3338	9.941	0.3771	0.1667	3.79%	0.0526	2.83%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	4	4	9.761	0.4077	9.761	0.4077	0.2038	4.18%	0.0355	2.84%
001.05	Loss on Drying, LECO (%)	1	1	10.04							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	113	110	19.94	0.2270	19.93	0.1992	0.0237	1.00%	0.1749	2.24%
002.05	Protein, Crude, Copper, Boric Acid (%)	30	30	19.80	0.2871	19.77	0.1808	0.0413	0.91%	0.1296	2.25%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	14	13	19.76	0.4327	19.75	0.3283	0.1138	1.66%	0.1179	2.25%
002.11	Protein, Crude, NIR (%)	9	9	20.02	0.6457	20.02	0.7323	0.3051	3.66%	0.1311	2.24%
002.00	Protein, Crude, Crude (%)	2	2	19.95	0.6265						
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	2	2	19.59	0.0755						
002.04	Protein, Crude, Copper Catalyst (%)	2	2	19.88	0.1747						
002.08	Protein, Crude, Cu/Ti (%)	2	2	19.56	0.0391						
002.03	Protein, Crude, Hach Method (%)	1	1	16.53							
002.99	Protein, Crude, Miscellaneous (%)	1	1	16.28							
003.14	Fat, Crude, Ankom (%)	57	56	2.464	0.4368	2.412	0.2416	0.0404	10.02%	0.1206	3.50%
003.10	Fat, Crude, Randall, Pet Ether (%)	29	29	2.406	0.1689	2.400	0.1398	0.0325	5.83%	0.0905	3.51%
003.06	Fat, Crude, Pet Ether (%)	16	15	2.510	0.1166	2.498	0.0739	0.0239	2.96%	0.0796	3.48%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	10	10	2.518	0.0740	2.515	0.0752	0.0297	2.99%	0.0838	3.48%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	9	9	2.635	0.0875	2.629	0.0842	0.0351	3.20%	0.0797	3.46%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	9	9	2.310	0.4231	2.326	0.4423	0.1843	19.02%	0.0508	3.52%
003.11	Fat, Crude, NIR (%)	8	8	2.658	0.4325	2.730	0.3010	0.1330	11.02%	0.0313	3.44%
003.12	Fat, Crude, Hexane Ext (%)	6	6	2.689	0.2643	2.689	0.2997	0.1529	11.14%	0.3365	3.45%
003.99	Fat, Crude, Miscellaneous (%)	2	2	2.408	0.2015						
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	2.865							
004.07	Fiber, Crude, ANKOM (%)	65	64	3.305	0.5379	3.264	0.3460	0.0541	10.60%	0.1891	3.35%
004.06	Fiber, Crude, Fibertec (%)	22	21	3.489	0.3171	3.490	0.3167	0.0864	9.07%	0.0748	3.31%
004.00	Fiber, Crude, Asbestos Free (%)	16	15	3.496	0.2748	3.496	0.3116	0.1006	8.91%	0.1339	3.31%

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004.11	Fiber, Crude, NIR (%)	7	7	3.355	0.7552	3.402	0.7436	0.3513	21.86%	0.1150	3.33%
004.03	Fiber, Crude, Fritted Glass (%)	5	5	3.152	0.6142	3.152	0.6142	0.2747	19.48%	0.2080	3.37%
004.01	Fiber, Crude, Sing Filt (%)	2	2	2.880	0.3960						
004.99	Fiber, Crude, Miscellaneous (%)	2	2	3.989	0.7616						
005.00	Ash, 2h @ 600°C (%)	72	71	6.119	0.2397	6.120	0.2611	0.0387	4.27%	0.0643	3.05%
005.05	Ash, 3h @ 550°C (%)	27	26	6.338	0.1686	6.343	0.1701	0.0417	2.68%	0.0318	3.03%
005.99	Ash, Miscellaneous (%)	8	8	6.147	0.3490	6.147	0.3958	0.1749	6.44%	0.0797	3.04%
005.11	Ash, NIR (%)	5	5	7.471	1.212	7.471	1.212	0.5422	16.23%	0.1410	2.96%
005.02	Ash, LECO (%)	1	1	6.453							
005.03	Ash, Microwave furnace (%)	1	1	5.750							
006.00	Total Sugars, As sucrose (%)	2	2	4.552	0.3302						
006.03	Total Sugars, Invert w/o Invsrn (%)	2	2	5.480	0.5233						
006.99	Total Sugars, Miscellaneous (%)	2	2	5.525	1.025						
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	41	4.458	0.3770	4.457	0.3974	0.0776	8.92%	0.1853	3.19%
008.02	Fiber, Acid Detergent, Crucible (%)	11	11	4.671	0.3848	4.644	0.3674	0.1385	7.91%	0.1689	3.17%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	5	5	4.563	0.3414	4.563	0.3414	0.1527	7.48%	0.1618	3.18%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	4.460							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	43	10.97	0.7210	10.91	0.6415	0.1223	5.88%	0.3293	2.79%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	10	11.05	1.268	11.05	1.318	0.5211	11.93%	0.2959	2.79%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	4	3	11.83	0.2353	11.83	0.2353	0.1358	1.99%	0.2900	2.76%
010.99	Moisture, Miscellaneous (%)	18	17	9.872	0.3905	9.847	0.3802	0.1153	3.86%	0.2098	2.83%
010.11	Moisture, NIR (%)	5	5	10.59	0.8622	10.59	0.8622	0.3856	8.14%	0.0450	2.80%
010.03	Moisture, Karl-Fischer (%)	2	2	10.25	0.0141						
011.01	Loss on Drying, 135°C 2hr (%)	59	57	10.47	0.4808	10.52	0.3290	0.0545	3.13%	0.0883	2.81%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	3	3	10.15	0.3222	10.15	0.3222	0.1860	3.18%	0.1757	2.82%
011.02	Loss on Drying, 130°C for 2 hours (%)	1	1	10.70							
012.00	Starch, Polarimetric (Ewers) (%)	12	12	39.88	1.057	39.87	1.182	0.4264	2.96%	0.7250	1.58%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	9	9	34.79	12.19	37.79	4.849	2.020	12.83%	0.7020	1.63%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	5	37.59	1.145	37.59	1.145	0.5121	3.05%	0.6786	1.63%
012.11	Starch, NIR (%)	5	5	39.97	3.475	39.97	3.475	1.554	8.69%	0.2200	1.58%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	3	3	38.12	2.901	38.12	2.901	1.675	7.61%	0.6377	1.62%
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	37.00							
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	16	3.310	0.4369	3.303	0.4267	0.1334	12.92%	0.0955	3.34%
013.02	Fat, Acid Pretreat, Mojonniier, Bak Ext (%)	15	15	3.626	0.3847	3.630	0.4259	0.1375	11.73%	0.1131	3.29%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	6	6	4.093	0.6786	4.108	0.7327	0.3739	17.83%	0.6762	3.23%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	5	5	3.127	0.3959	3.127	0.3959	0.1770	12.66%	0.1405	3.37%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	1.764							
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	3.100							
015.43	Aluminum, ICP, Microwave (ppm)	9	9	86.41	20.59	86.41	23.34	9.726	27.01%	5.267	8.18%
015.41	Aluminum, ICP, Dry ash (ppm)	5	4	90.79	5.675	90.79	5.675	2.838	6.25%	1.628	8.12%

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015.42	Aluminum, ICP, Open vessel (ppm)	2	2	67.66	11.76						
015.53	Aluminum, ICP-MS, Microwave (ppm)	2	2	100.1	8.213						
015.52	Aluminum, ICP-MS, Open vessel (ppm)	1	1	81.80							
017.41	Boron, ICP, Dry ash (ppm)	6	6	11.50	1.082	11.50	1.227	0.6259	10.66%	0.6494	11.08%
017.42	Boron, ICP, Open vessel (ppm)	6	6	11.57	0.7389	11.57	0.8379	0.4276	7.24%	0.2795	11.07%
017.43	Boron, ICP, Microwave (ppm)	8	5	11.21	0.7537	11.21	0.7537	0.4213	6.73%	0.1839	11.12%
017.52	Boron, ICP-MS, Open vessel (ppm)	2	2	13.18	3.439						
019.43	Calcium, ICP, Microwave (%)	29	29	1.178	0.0438	1.177	0.0480	0.0111	4.08%	0.0252	3.90%
019.41	Calcium, ICP, Dry ash (%)	23	23	1.167	0.0966	1.179	0.0649	0.0169	5.51%	0.0216	3.90%
019.42	Calcium, ICP, Open vessel (%)	20	20	1.191	0.1005	1.189	0.0864	0.0241	7.27%	0.0502	3.90%
019.31	Calcium, AAS, Dry ash (%)	17	16	1.165	0.0680	1.168	0.0549	0.0172	4.70%	0.0197	3.91%
019.00	Calcium, Ox-Mn04 Vol. (%)	14	14	1.160	0.0563	1.156	0.0548	0.0183	4.74%	0.0271	3.91%
019.08	Calcium, EDTA (%)	9	9	1.151	0.1306	1.159	0.1302	0.0542	11.23%	0.0327	3.91%
019.99	Calcium, Miscellaneous (%)	6	6	1.184	0.1160	1.184	0.1315	0.0671	11.11%	0.0200	3.90%
019.52	Calcium, ICP-MS, Open vessel (%)	5	5	1.113	0.0657	1.113	0.0657	0.0294	5.90%	0.0282	3.94%
019.53	Calcium, ICP-MS, Microwave (%)	3	3	1.140	0.0522	1.140	0.0522	0.0301	4.58%	0.0667	3.92%
019.02	Calcium, Hach Method (%)	1	1	1.305							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	1.191							
019.09	Calcium, Ion-selective electrode (%)	1	1	1.218							
019.32	Calcium, AAS, Open vessel (%)	1	1	1.175							
019.44	Calcium, ICP, Dry ash (%)	1	1	1.135							
021.43	Cobalt, ICP, Microwave (ppm)	10	9	0.8425	0.3571	0.8425	0.4050	0.1687	48.07%	0.0452	16.41%
021.41	Cobalt, ICP, Dry ash (ppm)	5	5	1.264	0.8266	1.264	0.8266	0.3697	65.40%	0.0591	15.44%
021.52	Cobalt, ICP-MS, Open vessel (ppm)	5	5	0.5687	0.0875	0.5687	0.0875	0.0391	15.39%	0.0303	17.42%
021.53	Cobalt, ICP-MS, Microwave (ppm)	5	4	0.8138	0.2286	0.8138	0.2286	0.1320	28.09%	0.0545	16.50%
021.31	Cobalt, AAS, Dry ash (ppm)	3	3	0.7200	0.3704	0.7200	0.3704	0.2619	51.45%	0.0133	16.81%
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	0.6110	0.2249						
022.43	Copper, ICP, Microwave (ppm)	24	22	13.88	2.132	13.55	1.381	0.3680	10.19%	0.8659	10.81%
022.42	Copper, ICP, Open vessel (ppm)	19	18	13.49	1.919	13.28	1.534	0.4520	11.55%	0.8556	10.84%
022.41	Copper, ICP, Dry ash (ppm)	16	16	12.60	0.9693	12.54	0.9431	0.2947	7.52%	0.9663	10.93%
022.31	Copper, AAS, Dry ash (ppm)	8	8	11.98	3.842	11.98	4.357	1.926	36.37%	0.3200	11.01%
022.53	Copper, ICP-MS, Microwave (ppm)	4	4	12.29	1.081	12.29	1.081	0.5406	8.80%	1.175	10.97%
022.99	Copper, Miscellaneous (ppm)	4	4	13.24	0.8616	13.24	0.8616	0.4308	6.51%	0.4750	10.84%
022.52	Copper, ICP-MS, Open vessel (ppm)	3	3	13.27	0.1955	13.27	0.1955	0.1129	1.47%	0.4215	10.84%
022.33	Copper, AAS, Microwave (ppm)	1	1	12.32							
022.44	Copper, ICP, Dry ash (ppm)	1	1	13.00							
025.43	Iron, ICP, Microwave (ppm)	23	22	203.2	35.27	209.2	11.84	3.157	5.66%	3.867	7.16%
025.41	Iron, ICP, Dry ash (ppm)	18	18	201.5	14.35	202.0	15.13	4.458	7.49%	5.920	7.20%
025.42	Iron, ICP, Open vessel (ppm)	17	17	195.3	20.85	195.3	23.65	7.169	12.11%	11.38	7.23%
025.31	Iron, AAS, Dry ash (ppm)	8	7	203.9	24.72	203.9	28.04	13.25	13.75%	1.500	7.19%

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025.99	Iron, Miscellaneous (ppm)	3	3	208.0	12.77	208.0	12.77	7.371	6.14%	4.667	7.16%
025.52	Iron, ICP-MS, Open vessel (ppm)	2	2	178.5	18.21						
025.53	Iron, ICP-MS, Microwave (ppm)	2	2	195.5	2.828						
025.34	Iron, AAS, Dry ash (ppm)	1	1	221.8							
027.43	Magnesium, ICP, Microwave (%)	26	26	0.1973	0.0126	0.1970	0.0119	0.0029	6.04%	0.0034	5.11%
027.42	Magnesium, ICP, Open vessel (%)	21	21	0.1934	0.0118	0.1935	0.0103	0.0028	5.32%	0.0072	5.12%
027.41	Magnesium, ICP, Dry ash (%)	18	18	0.1954	0.0111	0.1953	0.0117	0.0035	6.01%	0.0045	5.11%
027.31	Magnesium, AAS, Dry ash (%)	14	14	0.2123	0.0534	0.2009	0.0199	0.0067	9.93%	0.0035	5.09%
027.52	Magnesium, ICP-MS, Open vessel (%)	5	5	0.1966	0.0228	0.1966	0.0228	0.0102	11.60%	0.0043	5.11%
027.99	Magnesium, Miscellaneous (%)	5	5	0.1955	0.0224	0.1955	0.0224	0.0100	11.45%	0.0050	5.11%
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.1922	0.0019	0.1922	0.0019	0.0011	0.98%	0.0110	5.13%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.2150							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.2000							
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.1940							
028.43	Manganese, ICP, Microwave (ppm)	25	24	92.09	5.505	92.22	5.860	1.495	6.35%	2.544	8.10%
028.42	Manganese, ICP, Open vessel (ppm)	21	21	89.74	8.497	89.86	8.171	2.229	9.09%	4.257	8.13%
028.41	Manganese, ICP, Dry ash (ppm)	16	16	87.69	7.822	88.64	6.635	2.074	7.49%	2.382	8.15%
028.31	Manganese, AAS, Dry ash (ppm)	10	10	90.68	4.787	91.13	4.309	1.703	4.73%	1.517	8.11%
028.53	Manganese, ICP-MS, Microwave (ppm)	4	4	88.74	6.285	88.74	6.285	3.142	7.08%	6.675	8.14%
028.99	Manganese, Miscellaneous (ppm)	4	4	94.61	8.421	94.61	8.421	4.211	8.90%	3.025	8.07%
028.52	Manganese, ICP-MS, Open vessel (ppm)	4	3	93.87	3.652	93.87	3.652	2.108	3.89%	6.422	8.08%
028.44	Manganese, ICP, Dry ash (ppm)	2	2	81.81	9.467						
028.33	Manganese, AAS, Microwave (ppm)	1	1	87.56							
028.34	Manganese, AAS, Dry ash (ppm)	1	1	53.59							
031.01	Phosphorus, Photometric (%)	39	39	0.6737	0.0597	0.6697	0.0293	0.0059	4.37%	0.0137	4.25%
031.43	Phosphorus, ICP, Microwave (%)	29	29	0.6823	0.0354	0.6865	0.0273	0.0063	3.98%	0.0130	4.23%
031.41	Phosphorus, ICP, Dry ash (%)	20	20	0.6908	0.0333	0.6906	0.0374	0.0105	5.41%	0.0153	4.23%
031.42	Phosphorus, ICP, Open vessel (%)	21	20	0.6704	0.0354	0.6707	0.0380	0.0106	5.67%	0.0276	4.25%
031.99	Phosphorus, Miscellaneous (%)	5	5	0.6193	0.0701	0.6193	0.0701	0.0314	11.32%	0.0074	4.30%
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.6645	0.0241	0.6645	0.0241	0.0139	3.62%	0.0085	4.25%
031.52	Phosphorus, ICP-MS, Open vessel (%)	3	3	0.6755	0.0082	0.6755	0.0082	0.0047	1.21%	0.0126	4.24%
031.53	Phosphorus, ICP-MS, Microwave (%)	3	3	0.6648	0.0145	0.6648	0.0145	0.0084	2.18%	0.0417	4.25%
031.00	Phosphorus, Vol (%)	2	2	0.6850	0.0000						
031.44	Phosphorus, ICP, Dry ash (%)	2	2	0.6700	0.0163						
031.06	Phosphorus, Hach Method (%)	1	1	0.7700							
032.43	Potassium, ICP, Microwave (%)	22	22	1.019	0.0466	1.017	0.0469	0.0125	4.61%	0.0164	3.99%
032.42	Potassium, ICP, Open vessel (%)	18	18	1.026	0.0659	1.023	0.0602	0.0177	5.88%	0.0370	3.99%
032.41	Potassium, ICP, Dry ash (%)	17	16	0.9947	0.0572	0.9961	0.0543	0.0170	5.45%	0.0212	4.00%
032.31	Potassium, AAS, Dry ash (%)	9	9	0.9918	0.0714	0.9972	0.0665	0.0277	6.66%	0.0135	4.00%
032.99	Potassium, Miscellaneous (%)	5	5	1.012	0.0736	1.012	0.0736	0.0329	7.28%	0.0170	3.99%

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032.52	Potassium, ICP-MS, Open vessel (%)	3	3	0.9626	0.0989	0.9626	0.0989	0.0571	10.28%	0.0308	4.02%
032.53	Potassium, ICP-MS, Microwave (%)	3	3	1.009	0.0501	1.009	0.0501	0.0289	4.96%	0.0270	3.99%
032.32	Potassium, AAS, Open vessel (%)	1	1	1.025							
032.44	Potassium, ICP, Dry ash (%)	1	1	1.002							
033.01	Salt as chloride, Poten Cl (%)	27	26	0.6450	0.0562	0.6403	0.0157	0.0039	2.45%	0.0051	4.28%
033.00	Salt as chloride, Sol Cl (%)	24	22	0.6126	0.0700	0.6193	0.0306	0.0082	4.95%	0.0186	4.30%
033.99	Salt, Miscellaneous (%)	10	10	0.5640	0.0872	0.5709	0.0819	0.0324	14.35%	0.0205	4.35%
033.03	Salt as chloride, Quantab (%)	5	4	0.6200	0.1257	0.6200	0.1257	0.0726	20.27%	0.0050	4.30%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	3.630	5.222	3.630	5.222	3.693	143.86%	0.0400	3.29%
034.53	Selenium, ICP-MS, Microwave (ppm)	6	6	0.4422	0.0617	0.4422	0.0700	0.0357	15.83%	0.0417	18.09%
034.04	Selenium, AA, Hydride (ppm)	4	4	0.5238	0.2782	0.5238	0.2782	0.1391	53.12%	0.0185	17.63%
034.52	Selenium, ICP-MS, Open vessel (ppm)	3	3	0.4375	0.0418	0.4375	0.0418	0.0241	9.55%	0.0845	18.12%
034.43	Selenium, ICP, Microwave (ppm)	4	2	0.8920	0.0891	0.8920	0.0891			0.3950	16.27%
034.41	Selenium, ICP, Dry ash (ppm)	1	1	0.3800							
034.42	Selenium, ICP, Open vessel (ppm)	2		0.0000							
034.99	Selenium, Miscellaneous (ppm)	1		0.0100							
035.43	Sodium, ICP, Microwave (%)	25	24	0.2105	0.0133	0.2090	0.0098	0.0025	4.70%	0.0054	5.06%
035.41	Sodium, ICP, Dry ash (%)	22	22	0.2140	0.0191	0.2120	0.0138	0.0037	6.53%	0.0087	5.05%
035.42	Sodium, ICP, Open vessel (%)	19	19	0.2055	0.0151	0.2029	0.0100	0.0029	4.92%	0.0077	5.08%
035.31	Sodium, AAS, Dry ash (%)	13	13	0.2145	0.0442	0.2067	0.0204	0.0071	9.85%	0.0040	5.07%
035.52	Sodium, ICP-MS, Open vessel (%)	4	4	0.1997	0.0181	0.1997	0.0181	0.0091	9.08%	0.0069	5.10%
035.99	Sodium, Miscellaneous (%)	5	4	0.2200	0.0168	0.2200	0.0168	0.0084	7.65%	0.0050	5.02%
035.53	Sodium, ICP-MS, Microwave (%)	3	3	0.1953	0.0198	0.1953	0.0198	0.0114	10.13%	0.0127	5.11%
035.01	Sodium, Ion-selective electrode (%)	1	1	0.2135							
035.05	Sodium, Flame Emission (%)	1	1	0.1800							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.1950							
036.42	Sulfur, ICP, Open vessel (%)	23	23	0.2557	0.0192	0.2569	0.0180	0.0047	7.00%	0.0097	4.91%
036.43	Sulfur, ICP, Microwave (%)	18	18	0.2708	0.0230	0.2697	0.0232	0.0068	8.61%	0.0049	4.87%
036.04	Sulfur, LECO (%)	3	3	0.2552	0.0182	0.2552	0.0182	0.0105	7.15%	0.0070	4.91%
036.52	Sulfur, ICP-MS, Open vessel (%)	3	3	0.2674	0.0196	0.2674	0.0196	0.0113	7.35%	0.0176	4.88%
036.99	Sulfur, Miscellaneous (%)	2	2	0.2288	0.0018						
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.2680							
037.43	Zinc, ICP, Microwave (ppm)	26	25	106.8	7.540	106.5	7.829	1.957	7.35%	4.462	7.92%
037.42	Zinc, ICP, Open vessel (ppm)	20	20	99.45	22.65	103.3	10.30	2.879	9.97%	4.461	7.96%
037.41	Zinc, ICP, Dry ash (ppm)	17	17	106.5	6.346	106.6	5.923	1.796	5.55%	4.359	7.92%
037.31	Zinc, AAS, Dry ash (ppm)	12	11	102.0	10.01	103.3	8.068	3.041	7.81%	1.072	7.96%
037.99	Zinc, Miscellaneous (ppm)	5	5	108.8	16.05	108.8	16.05	7.176	14.75%	1.823	7.90%
037.52	Zinc, ICP-MS, Open vessel (ppm)	4	4	99.18	12.16	99.18	12.16	6.082	12.26%	4.454	8.01%
037.53	Zinc, ICP-MS, Microwave (ppm)	3	3	106.3	6.917	106.3	6.917	3.993	6.51%	2.113	7.93%
037.44	Zinc, ICP, Dry ash (ppm)	2	2	96.37	12.21						

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037.33	Zinc, AAS, Microwave (ppm)	1	1	108.5							
038.43	Molybdenum, ICP, Microwave (ppm)	9	7	1.569	0.4252	1.481	0.2501	0.1181	16.89%	0.0639	15.08%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	5	5	1.493	0.1611	1.493	0.1611	0.0721	10.79%	0.0816	15.06%
038.42	Molybdenum, ICP, Open vessel (ppm)	5	4	1.876	0.4766	1.876	0.4766	0.2383	25.41%	0.3245	14.55%
038.41	Molybdenum, ICP, Dry ash (ppm)	3	3	1.344	0.2322	1.344	0.2322	0.1341	17.28%	0.0140	15.30%
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	3	2	1.477	0.0804	1.477	0.0804			0.0565	15.08%
040.52	Barium, ICP-MS, Open vessel (ppm)	2	2	6.492	0.7963						
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	5.734							
041.53	Vanadium, ICP-MS, Microwave (ppm)	2	2	0.6508	0.0979						
041.43	Vanadium, ICP, Microwave (ppm)	1		2.000							
042.00	Chloride, Titrimetric (%)	4	4	0.6313	0.2905	0.6313	0.2905	0.1452	46.02%	0.0075	4.29%
042.99	Chloride, Miscellaneous (%)	1	1	0.4200							
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	2,050							
102.02	Niacin, LC (ppm)	2	2	69.38	3.359						
102.01	Niacin, Microbiological (ppm)	1	1	104.0							
102.99	Niacin, Miscellaneous (ppm)	1	1	25.10							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	19.45							
103.02	Pantothenic Acid, LC (ppm)	1	1	23.45							
103.99	Pantothenic Acid, Miscellaneous (ppm)	1	1	46.25							
104.00	Riboflavin, Fluorometric (ppm)	2	2	18.73	3.500						
104.03	Riboflavin, LC (ppm)	1	1	13.17							
105.00	Thiamine, LC (ppm)	2	2	2.815	0.3748						
105.01	Thiamine, Fluorometer (ppm)	1	1	5.135							
106.02	Vitamin A, LC (KU / kg)	11	10	13.50	3.257	14.11	1.946	0.7694	13.80%	1.251	
106.00	Vitamin A, Color (KU / kg)	1	1	1.320							
106.01	Vitamin A, UV (KU / kg)	1	1	17.20							
107.00	Vitamin B12, Microbiological (ppb)	1	1	36.05							
108.02	Vitamin D3, LC (KU / kg)	5	5	4.070	1.421	4.070	1.421	0.6356	34.92%	0.5400	
108.99	Vitamin D3, Miscellaneous (KU / kg)	3	3	3.485	0.8678	3.485	0.8678	0.5010	24.90%	0.3700	
109.02	Vitamin E, LC (IU / kg)	11	11	51.88	9.487	52.33	9.708	3.659	18.55%	1.426	
111.00	Vitamin C, Phosphorylated, LC (ppm)	1		4.400							
112.01	Pyridoxine, LC (µg / g)	2	2	6.640	3.168						
112.99	Pyridoxine, Miscellaneous (µg / g)	1	1	3.045							
113.01	Folic Acid, Micro (ppm)	1	1	6.920							
114.01	Biotin, Microbiological (ppm)	1	1	0.4865							
114.99	Biotin, Miscellaneous (ppm)	1	1	0.2500							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.5100							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	1.475							
120.00	Alanine, Post-col Ninhydrin Der (%)	18	18	0.9545	0.0274	0.9534	0.0258	0.0076	2.70%	0.0146	4.03%
120.05	Alanine, Pre-col AQC Der (%)	7	7	0.9143	0.0518	0.9168	0.0530	0.0250	5.78%	0.0089	4.05%

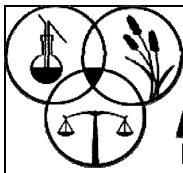
Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
120.99	Alanine, Miscellaneous (%)	3	3	0.9475	0.0520	0.9475	0.0520	0.0300	5.49%	0.0183	4.03%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.9475							
121.00	Arginine, Post-col Ninhydrin Der (%)	18	18	1.305	0.0721	1.296	0.0537	0.0158	4.14%	0.0191	3.85%
121.05	Arginine, Pre-col AQC Der (%)	7	7	1.307	0.0481	1.307	0.0546	0.0258	4.18%	0.0220	3.84%
121.99	Arginine, Miscellaneous (%)	2	2	1.151	0.1962						
121.02	Arginine, Post-col OPA Der (%)	1	1	1.243							
122.00	Aspartic, Post-col Ninhydrin Der (%)	18	18	1.977	0.0784	1.967	0.0637	0.0188	3.24%	0.0221	3.61%
122.05	Aspartic, Pre-col AQC Der (%)	6	6	1.972	0.0715	1.973	0.0773	0.0394	3.92%	0.0518	3.61%
122.99	Aspartic, Miscellaneous (%)	3	3	1.937	0.3099	1.937	0.3099	0.2191	16.00%	0.0067	3.62%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.889							
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	18	18	0.3184	0.0226	0.3184	0.0242	0.0071	7.59%	0.0089	4.75%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	7	7	0.3627	0.1771	0.3289	0.0778	0.0368	23.65%	0.0163	4.73%
124.99	Cysteine/Cystine, Miscellaneous (%)	3	3	0.3642	0.1567	0.3642	0.1567	0.0905	43.04%	0.0050	4.66%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.3180							
125.00	Glutamic, Post-col Ninhydrin Der (%)	18	18	3.522	0.1608	3.510	0.1507	0.0444	4.29%	0.0369	3.31%
125.05	Glutamic, Pre-col AQC Der (%)	7	7	3.504	0.1393	3.487	0.1160	0.0548	3.33%	0.0487	3.31%
125.99	Glutamic, Miscellaneous (%)	3	3	3.423	0.6376	3.423	0.6376	0.3681	18.63%	0.0417	3.32%
125.02	Glutamic, Post-col OPA Der (%)	1	1	3.338							
126.00	Glycine, Post-col Ninhydrin Der (%)	18	17	0.8389	0.0350	0.8360	0.0315	0.0096	3.77%	0.0126	4.11%
126.05	Glycine, Pre-col AQC Der (%)	7	7	0.8308	0.0248	0.8308	0.0281	0.0133	3.38%	0.0187	4.11%
126.99	Glycine, Miscellaneous (%)	3	3	0.7242	0.2310	0.7242	0.2310	0.1633	31.89%	0.0050	4.20%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.8270							
127.00	Histidine, Post-col Ninhydrin Der (%)	18	17	0.5168	0.0207	0.5187	0.0182	0.0055	3.51%	0.0088	4.42%
127.05	Histidine, Pre-col AQC Der (%)	7	7	0.5094	0.0225	0.5094	0.0255	0.0121	5.01%	0.0134	4.43%
127.99	Histidine, Miscellaneous (%)	3	3	0.5992	0.1682	0.5992	0.1682	0.0971	28.07%	0.0150	4.32%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.5005							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	18	17	0.7855	0.0394	0.7855	0.0446	0.0135	5.68%	0.0124	4.15%
128.05	Isoleucine, Pre-col AQC Der (%)	7	6	0.8078	0.0450	0.8078	0.0510	0.0260	6.32%	0.0145	4.13%
128.99	Isoleucine, Miscellaneous (%)	3	3	0.8058	0.0914	0.8058	0.0914	0.0528	11.34%	0.0083	4.13%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.8055							
129.00	Leucine, Post-col Ninhydrin Der (%)	18	17	1.550	0.0706	1.546	0.0549	0.0166	3.55%	0.0141	3.75%
129.05	Leucine, Pre-col AQC Der (%)	7	7	1.527	0.0341	1.527	0.0387	0.0183	2.53%	0.0254	3.75%
129.99	Leucine, Miscellaneous (%)	3	3	1.621	0.0915	1.621	0.0915	0.0528	5.65%	0.0083	3.72%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.532							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	18	18	1.044	0.0487	1.040	0.0433	0.0128	4.17%	0.0153	3.98%
130.05	L-Lysine, Pre-col AQC Der (%)	9	8	1.045	0.0681	1.045	0.0660	0.0292	6.31%	0.0216	3.97%
130.99	L-Lysine, Miscellaneous (%)	3	3	1.013	0.3536	1.013	0.3536	0.2042	34.90%	0.0133	3.99%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	1.088							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	18	18	0.2946	0.0188	0.2944	0.0184	0.0054	6.25%	0.0088	4.81%
131.05	Methionine, PAO Pre-col AQC Der (%)	7	7	0.2586	0.0615	0.2729	0.0314	0.0148	11.49%	0.0049	4.86%

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131.99	Methionine, Miscellaneous (%)	3	3	0.3183	0.0208	0.3183	0.0208	0.0120	6.54%	0.0067	4.75%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2810							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	18	17	0.9405	0.0698	0.9345	0.0553	0.0168	5.92%	0.0124	4.04%
132.05	Phenylalanine, Pre-col AQC Der (%)	7	7	0.9247	0.0287	0.9247	0.0325	0.0154	3.52%	0.0169	4.05%
132.99	Phenylalanine, Miscellaneous (%)	3	3	0.9150	0.0397	0.9150	0.0397	0.0229	4.34%	0.0100	4.05%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.9050							
133.00	Proline, Post-col Ninhydrin Der (%)	18	17	1.149	0.1219	1.151	0.0906	0.0275	7.87%	0.0318	3.92%
133.05	Proline, Pre-col AQC Der (%)	7	7	1.163	0.0380	1.163	0.0431	0.0204	3.70%	0.0191	3.91%
133.99	Proline, Miscellaneous (%)	3	3	1.159	0.1263	1.159	0.1263	0.0729	10.89%	0.0183	3.91%
134.00	Serine, Post-col Ninhydrin Der (%)	18	17	0.9538	0.0588	0.9413	0.0286	0.0087	3.04%	0.0113	4.04%
134.05	Serine, Pre-col AQC Der (%)	7	7	0.9057	0.0916	0.9180	0.0732	0.0346	7.97%	0.0206	4.05%
134.99	Serine, Miscellaneous (%)	3	3	0.9133	0.1693	0.9133	0.1693	0.0977	18.54%	0.0067	4.05%
134.02	Serine, Post-col OPA Der (%)	1	1	0.7515							
135.00	Threonine, Post-col Ninhydrin Der (%)	18	17	0.7342	0.0358	0.7314	0.0294	0.0089	4.02%	0.0054	4.19%
135.05	Threonine, Pre-col AQC Der (%)	7	7	0.7088	0.0605	0.7171	0.0479	0.0226	6.69%	0.0167	4.20%
135.99	Threonine, Miscellaneous (%)	3	3	0.7083	0.0852	0.7083	0.0852	0.0602	12.03%	0.0033	4.21%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.6955							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	8	8	0.2565	0.0350	0.2565	0.0397	0.0175	15.47%	0.0104	4.91%
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	6	6	0.2555	0.0150	0.2519	0.0079	0.0040	3.15%	0.0063	4.92%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.2563	0.0044	0.2563	0.0044	0.0025	1.70%	0.0013	4.91%
136.05	Tryptophan, Pre-col AQC Der (%)	4	3	0.2300	0.0673	0.2300	0.0673	0.0388	29.25%	0.0067	4.99%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2385							
136.99	Tryptophan, Miscellaneous (%)	1	1	0.5000							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	12	12	0.6622	0.1291	0.6714	0.1184	0.0427	17.64%	0.0231	4.25%
137.05	Tyrosine, Pre-col AQC Der (%)	7	7	0.6344	0.0925	0.6372	0.0984	0.0465	15.43%	0.0174	4.28%
137.99	Tyrosine, Miscellaneous (%)	3	3	0.5767	0.0666	0.5767	0.0666	0.0471	11.55%	0.0067	4.35%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.5885							
138.00	Valine, Post-col Ninhydrin Der (%)	18	17	0.9020	0.0434	0.9020	0.0493	0.0149	5.46%	0.0190	4.06%
138.05	Valine, Pre-col AQC Der (%)	7	6	0.9137	0.0490	0.9137	0.0556	0.0284	6.09%	0.0147	4.05%
138.99	Valine, Miscellaneous (%)	3	3	0.9058	0.0865	0.9058	0.0865	0.0499	9.55%	0.0083	4.06%
138.02	Valine, Post-col OPA Der (%)	1	1	0.9375							
139.00	Taurine, Post-col Ninhydrin Der (%)	1	1	0.1020							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0160							
139.99	Taurine, Miscellaneous (%)	2	1	0.0200							
139.02	Taurine, Post-col OPA Der (%)	1	1	0.0100							
160.99	Fructose, Miscellaneous (%)	2	2	0.1713	0.0336						
160.10	Fructose, HPAEC PAD (%)	1	1	0.1475							
161.10	Galactose, HPAEC PAD (%)	1	1	0.0000							
162.10	Glucose, HPAEC PAD (%)	1	1	0.1690							
162.99	Glucose, Miscellaneous (%)	2	1	0.1120							

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163.10	Lactose, HPAEC PAD (%)	1		0.0000							
163.99	Lactose, Miscellaneous (%)	2		0.0000							
164.10	Maltose, HPAEC PAD (%)	1		0.0000							
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.99	Sucrose, Miscellaneous (%)	2	2	2.833	0.0389						
165.10	Sucrose, HPAEC PAD (%)	1	1	2.258							
166.99	Raffinose, Miscellaneous (%)	2	2	0.5093	0.2273						
166.10	Raffinose, HPAEC PAD (%)	1	1	0.5895							
167.99	Stachyose, Miscellaneous (%)	2	2	1.368	0.1874						
167.10	Stachyose, HPAEC PAD (%)	1	1	1.272							
345.00	Amprolium, Colorimetric (ppm)	5	5	66.35	16.60	66.35	16.60	7.422	25.01%	1.878	8.51%
345.02	Amprolium, LC (UV or FL) (ppm)	5	5	59.38	5.696	59.38	5.696	2.547	9.59%	3.840	8.65%
345.04	Amprolium, LC-MS/MS (ppm)	2	2	103.4	25.88						
386.02	Tiamulin, LC-MS/MS (ppm)	6	6	88.58	10.61	88.05	10.77	5.498	12.24%	1.323	8.15%
386.00	Tiamulin, LC (ppm)	4	4	92.05	16.88	92.05	16.88	8.441	18.34%	2.000	8.10%
386.99	Tiamulin, Miscellaneous (ppm)	1	1	97.59							
400.01	Water Activity, Aqualab chilled mirror (Units)	8	7	0.5434	0.0160	0.5449	0.0145	0.0068	2.65%	0.0068	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.5388	0.0074						
516.00	Arsenic, Total, AA, Hydride (ppm)	2	2	0.0390	0.0050						
516.53	Arsenic, Total, ICP-MS, Microwave (ppm)	4	2	0.0427	0.0017	0.0427	0.0017			0.0022	22.00%
516.43	Arsenic, Total, ICP, Microwave (ppm)	3	1								
516.52	Arsenic, Total, ICP-MS, Open vessel (ppm)	3	1								
516.99	Arsenic, Total, Miscellaneous (ppm)	1		0.0100							
518.53	Cadmium, ICP-MS, Microwave (ppm)	4	4	0.0656	0.0054	0.0656	0.0054	0.0027	8.29%	0.0013	22.00%
518.52	Cadmium, ICP-MS, Open vessel (ppm)	3	3	0.0660	0.0013	0.0660	0.0013	0.0008	2.00%	0.0053	22.00%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.0636	0.0073						
518.43	Cadmium, ICP, Microwave (ppm)	4	2	0.0612	0.0217	0.0612	0.0217			0.0023	22.00%
518.99	Cadmium, Miscellaneous (ppm)	1	1	0.0200							
520.42	Chromium, ICP, Open vessel (ppm)	3	3	5.270	0.3228	5.270	0.3228	0.1863	6.12%	0.1740	12.46%
520.43	Chromium, ICP, Microwave (ppm)	5	3	5.515	0.8681	5.515	0.8681	0.6138	15.74%	0.0053	12.37%
520.53	Chromium, ICP-MS, Microwave (ppm)	4	3	3.918	2.197	3.918	2.197	1.268	56.06%	0.1202	13.02%
520.41	Chromium, ICP, Dry ash (ppm)	2	2	3.505	0.5162						
520.52	Chromium, ICP-MS, Open vessel (ppm)	2	2	3.853	0.9099						
526.52	Lead, ICP-MS, Open vessel (ppm)	3	3	0.1069	0.0123	0.1069	0.0123	0.0071	11.49%	0.0104	22.00%
526.53	Lead, ICP-MS, Microwave (ppm)	4	3	0.1248	0.0188	0.1248	0.0188	0.0108	15.03%	0.0244	21.88%
526.41	Lead, ICP, Dry ash (ppm)	2	2	0.1030	0.1053						
526.43	Lead, ICP, Microwave (ppm)	3	1								
526.99	Lead, Miscellaneous (ppm)	1		0.0100							
529.99	Mercury, Miscellaneous (ppb)	5	1								
539.43	Nickel, ICP, Microwave (ppm)	3	3	3.187	0.6965	3.187	0.6965	0.4925	21.86%	0.0188	13.44%

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 (R-bar)	Thompson Horwitz %RSD
539.53	Nickel, ICP-MS, Microwave (ppm)	3	3	3.271	0.1123	3.271	0.1123	0.0648	3.43%	0.2943	13.38%
539.41	Nickel, ICP, Dry ash (ppm)	2	2	2.304	0.0366						
539.52	Nickel, ICP-MS, Open vessel (ppm)	2	2	2.589	0.4789						
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0200							
704.00	Caproic Acid (6:0) , Miscellaneous GC (%)	1		0.0200							
706.99	Caprylic acid (8:0), Miscellaneous (% (w/w))	1		0.0200							
708.99	Capric acid (10:0), Miscellaneous (% (w/w))	1		0.0200							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	2		0.0050							
714.99	Myristic Acid (14:0) , Miscellaneous (% (w/w))	2		0.0050							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.5050	0.0834						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	2	1	0.0055							
720.99	Margaric acid (17:0), Miscellaneous (% (w/w))	1		0.0200							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	2	0.0760	0.0099						
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.6535	0.0417						
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	2	2	1.541	0.0803						
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	2	2	0.0990	0.0106						
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	1	0.0100							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	1	0.0100							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1		0.0200							
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	1	0.0070							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	2		0.0050							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (%)	2		0.0000							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	2	1	0.0080							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (%)	2		0.0000							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	2		0.0050							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	1	1	0.1165							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	1	1	1.602							
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.7000							
764.99	Total cis Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.7355							
768.99	Total cis Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.721							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	3.301							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	2.958	0.2800						

Notes: Robust statistics not used if < 6 labs reporting. In this case Means and SD's may be reported based on Raw Data with obvious blunders removed. Robust Assigned Values indicated in bold font.



Animal Feed Scheme

Chicken Feed, Medicated

Test Material Code # 202029

Method Precision Report

Methods Reported: 93

Labs Reporting: 179

Issue Date : 10/31/2020

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
001.03	Loss on Drying, Low temp. methods (%)	8	8	9.940	0.3338	0.3319	0.0503	0.3357	3.34%	0.51%	3.38%	6.679
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	44	41	9.619	0.7081	0.3667	0.0813	0.3756	3.76%	0.83%	3.85%	4.618
001.99	Loss on Drying, Miscellaneous (%)	23	21	9.528	0.5147	0.3723	0.1732	0.4106	3.87%	1.80%	4.27%	2.371
002.01	Protein, Crude, Auto Kjel-Foss (%)	14	12	19.76	0.4327	0.3453	0.0905	0.3569	1.74%	0.46%	1.80%	3.945
002.05	Protein, Crude, Copper, Boric Acid (%)	30	29	19.80	0.2871	0.2135	0.1182	0.2440	1.08%	0.60%	1.23%	2.065
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	113	106	19.94	0.2270	0.1555	0.1677	0.2287	0.78%	0.84%	1.15%	1.364
002.11	Protein, Crude, NIR (%)	9	9	20.02	0.6457	0.6391	0.1304	0.6523	3.19%	0.65%	3.26%	5.001
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	9	8	2.635	0.0875	0.0872	0.0461	0.0986	3.30%	1.75%	3.74%	2.138
003.06	Fat, Crude, Pet Ether (%)	16	14	2.510	0.1166	0.0469	0.0760	0.0893	1.89%	3.06%	3.59%	1.175
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	10	9	2.518	0.0740	0.0405	0.0555	0.0687	1.62%	2.22%	2.75%	1.238
003.10	Fat, Crude, Randall, Pet Ether (%)	29	28	2.406	0.1689	0.1454	0.0766	0.1643	6.08%	3.20%	6.87%	2.145
003.13	Fat, Crude, Randall, Hexane Ext. (%)	9	9	2.310	0.4231	0.4217	0.0480	0.4245	18.26%	2.08%	18.38%	8.847
003.14	Fat, Crude, Ankom (%)	57	52	2.464	0.4368	0.2292	0.0994	0.2498	9.65%	4.18%	10.52%	2.514
004.00	Fiber, Crude, Asbestos Free (%)	16	15	3.496	0.2748	0.2620	0.1172	0.2870	7.49%	3.35%	8.21%	2.448
004.06	Fiber, Crude, Fibertec (%)	22	20	3.489	0.3171	0.3212	0.0569	0.3262	9.23%	1.63%	9.37%	5.732
004.07	Fiber, Crude, ANKOM (%)	65	60	3.305	0.5379	0.3431	0.1478	0.3736	10.63%	4.58%	11.58%	2.527
005.00	Ash, 2h @ 600°C (%)	72	70	6.119	0.2397	0.2329	0.0595	0.2404	3.80%	0.97%	3.93%	4.043
005.05	Ash, 3h @ 550°C (%)	27	25	6.338	0.1686	0.1454	0.0322	0.1489	2.29%	0.51%	2.34%	4.626
005.99	Ash, Miscellaneous (%)	8	8	6.147	0.3490	0.3443	0.0807	0.3537	5.60%	1.31%	5.75%	4.381
008.02	Fiber, Acid Detergent, Crucible (%)	11	10	4.671	0.3848	0.3951	0.1246	0.4143	8.47%	2.67%	8.88%	3.324
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	41	4.458	0.3770	0.3560	0.1755	0.3969	7.99%	3.94%	8.90%	2.262
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	10	11.05	1.268	1.253	0.2716	1.282	11.34%	2.46%	11.61%	4.720
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	40	10.97	0.7210	0.5771	0.2669	0.6359	5.30%	2.45%	5.84%	2.383
010.99	Moisture, Miscellaneous (%)	18	15	9.872	0.3905	0.2817	0.1765	0.3324	2.86%	1.79%	3.38%	1.884
011.01	Loss on Drying, 135°C 2hr (%)	59	54	10.47	0.4808	0.3639	0.0835	0.3734	3.46%	0.79%	3.55%	4.470
012.00	Starch, Polarimetric (Ewers) (%)	12	11	39.88	1.057	0.9755	0.5185	1.105	2.44%	1.30%	2.76%	2.131
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	9	8	34.79	12.19	3.486	0.6943	3.554	9.01%	1.79%	9.18%	5.120
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	15	3.310	0.4369	0.3730	0.0707	0.3797	11.48%	2.18%	11.68%	5.368
013.02	Fat, Acid Pretreat, Mojonner, Bak Ext (%)	15	14	3.626	0.3847	0.3796	0.0818	0.3883	10.39%	2.24%	10.63%	4.745
015.43	Aluminum, ICP, Microwave (ppm)	9	9	86.41	20.59	20.32	4.700	20.85	23.51%	5.44%	24.13%	4.437
019.00	Calcium, Ox-Mn04 Vol. (%)	14	13	1.160	0.0563	0.0402	0.0249	0.0473	3.49%	2.17%	4.11%	1.897
019.08	Calcium, EDTA (%)	9	8	1.151	0.1306	0.0935	0.0191	0.0955	7.90%	1.62%	8.07%	4.993
019.31	Calcium, AAS, Dry ash (%)	17	15	1.165	0.0680	0.0481	0.0189	0.0517	4.09%	1.61%	4.40%	2.730
019.41	Calcium, ICP, Dry ash (%)	23	21	1.167	0.0966	0.0499	0.0185	0.0532	4.20%	1.55%	4.48%	2.882
019.42	Calcium, ICP, Open vessel (%)	20	19	1.191	0.1005	0.0971	0.0422	0.1059	8.13%	3.53%	8.86%	2.511
019.43	Calcium, ICP, Microwave (%)	29	28	1.178	0.0438	0.0419	0.0204	0.0466	3.55%	1.73%	3.95%	2.286

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
021.43	Cobalt, ICP, Microwave (ppm)	10	9	0.8425	0.3571	0.3556	0.0469	0.3587	42.21%	5.56%	42.57%	7.651
022.41	Copper, ICP, Dry ash (ppm)	16	15	12.60	0.9693	0.5395	0.7714	0.9413	4.33%	6.20%	7.56%	1.220
022.42	Copper, ICP, Open vessel (ppm)	19	16	13.49	1.919	1.132	0.8079	1.391	8.66%	6.18%	10.64%	1.721
022.43	Copper, ICP, Microwave (ppm)	24	20	13.88	2.132	1.266	0.6799	1.437	9.40%	5.05%	10.67%	2.114
025.41	Iron, ICP, Dry ash (ppm)	18	17	201.5	14.35	13.83	4.801	14.64	6.89%	2.39%	7.30%	3.049
025.42	Iron, ICP, Open vessel (ppm)	17	16	195.3	20.85	18.67	9.586	20.99	9.66%	4.96%	10.86%	2.190
025.43	Iron, ICP, Microwave (ppm)	23	20	203.2	35.27	10.43	2.602	10.75	4.97%	1.24%	5.12%	4.132
027.31	Magnesium, AAS, Dry ash (%)	14	12	0.2123	0.0534	0.0165	0.0032	0.0168	8.31%	1.63%	8.47%	5.190
027.41	Magnesium, ICP, Dry ash (%)	18	18	0.1954	0.0111	0.0107	0.0044	0.0115	5.47%	2.24%	5.91%	2.640
027.42	Magnesium, ICP, Open vessel (%)	21	19	0.1934	0.0118	0.0091	0.0060	0.0109	4.64%	3.08%	5.56%	1.808
027.43	Magnesium, ICP, Microwave (%)	26	25	0.1973	0.0126	0.0105	0.0038	0.0112	5.36%	1.96%	5.71%	2.918
028.31	Manganese, AAS, Dry ash (ppm)	10	8	90.68	4.787	2.915	0.9671	3.071	3.16%	1.05%	3.32%	3.175
028.41	Manganese, ICP, Dry ash (ppm)	16	15	87.69	7.822	7.842	1.790	8.044	8.98%	2.05%	9.21%	4.493
028.42	Manganese, ICP, Open vessel (ppm)	21	20	89.74	8.497	8.392	3.339	9.032	9.35%	3.72%	10.06%	2.705
028.43	Manganese, ICP, Microwave (ppm)	25	23	92.09	5.505	5.431	1.889	5.750	5.91%	2.05%	6.25%	3.044
031.01	Phosphorus, Photometric (%)	39	37	0.6737	0.0597	0.0321	0.0119	0.0342	4.80%	1.78%	5.11%	2.877
031.41	Phosphorus, ICP, Dry ash (%)	20	18	0.6908	0.0333	0.0308	0.0100	0.0324	4.47%	1.45%	4.70%	3.238
031.42	Phosphorus, ICP, Open vessel (%)	21	19	0.6704	0.0354	0.0326	0.0221	0.0393	4.86%	3.30%	5.87%	1.782
031.43	Phosphorus, ICP, Microwave (%)	29	27	0.6823	0.0354	0.0263	0.0112	0.0286	3.83%	1.64%	4.16%	2.545
032.31	Potassium, AAS, Dry ash (%)	9	9	0.9918	0.0714	0.0710	0.0110	0.0718	7.15%	1.11%	7.24%	6.526
032.41	Potassium, ICP, Dry ash (%)	17	15	0.9947	0.0572	0.0578	0.0180	0.0605	5.81%	1.81%	6.09%	3.371
032.42	Potassium, ICP, Open vessel (%)	18	17	1.026	0.0659	0.0476	0.0304	0.0564	4.68%	2.99%	5.55%	1.859
032.43	Potassium, ICP, Microwave (%)	22	22	1.019	0.0466	0.0454	0.0153	0.0479	4.45%	1.51%	4.70%	3.121
033.00	Salt as chloride, Sol Cl (%)	24	21	0.6126	0.0700	0.0337	0.0162	0.0374	5.39%	2.59%	5.98%	2.307
033.01	Salt as chloride, Poten Cl (%)	27	24	0.6450	0.0562	0.0283	0.0047	0.0287	4.46%	0.73%	4.52%	6.159
033.99	Salt, Miscellaneous (%)	10	9	0.5640	0.0872	0.0909	0.0140	0.0919	15.99%	2.46%	16.18%	6.569
035.31	Sodium, AAS, Dry ash (%)	13	12	0.2145	0.0442	0.0178	0.0044	0.0184	8.77%	2.19%	9.04%	4.136
035.41	Sodium, ICP, Dry ash (%)	22	20	0.2140	0.0191	0.0103	0.0068	0.0123	4.92%	3.23%	5.88%	1.822
035.42	Sodium, ICP, Open vessel (%)	19	18	0.2055	0.0151	0.0102	0.0085	0.0132	5.00%	4.17%	6.51%	1.561
035.43	Sodium, ICP, Microwave (%)	25	23	0.2105	0.0133	0.0072	0.0059	0.0093	3.47%	2.84%	4.49%	1.581
036.42	Sulfur, ICP, Open vessel (%)	23	21	0.2557	0.0192	0.0148	0.0087	0.0171	5.74%	3.38%	6.66%	1.968
036.43	Sulfur, ICP, Microwave (%)	18	18	0.2708	0.0230	0.0228	0.0046	0.0233	8.42%	1.68%	8.59%	5.101
037.31	Zinc, AAS, Dry ash (ppm)	12	10	102.0	10.01	6.953	1.066	7.034	6.67%	1.02%	6.75%	6.597
037.41	Zinc, ICP, Dry ash (ppm)	17	16	106.5	6.346	4.355	4.039	5.939	4.06%	3.76%	5.53%	1.471
037.42	Zinc, ICP, Open vessel (ppm)	20	19	99.45	22.65	7.808	5.113	9.333	7.50%	4.91%	8.96%	1.825
037.43	Zinc, ICP, Microwave (ppm)	26	24	106.8	7.540	6.719	3.549	7.599	6.32%	3.34%	7.15%	2.141
106.02	Vitamin A, LC (KU / kg)	11	9	13.50	3.257	1.126	1.314	1.730	7.80%	9.10%	11.99%	1.317
109.02	Vitamin E, LC (IU / kg)	11	11	51.88	9.487	9.439	1.354	9.536	18.19%	2.61%	18.38%	7.041
120.00	Alanine, Post-col Ninhydrin Der (%)	18	16	0.9545	0.0274	0.0182	0.0105	0.0210	1.91%	1.10%	2.20%	2.005
121.00	Arginine, Post-col Ninhydrin Der (%)	18	17	1.305	0.0721	0.0434	0.0163	0.0464	3.36%	1.26%	3.59%	2.853
122.00	Aspartic, Post-col Ninhydrin Der (%)	18	17	1.977	0.0784	0.0587	0.0215	0.0626	2.99%	1.10%	3.18%	2.904
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	18	18	0.3184	0.0226	0.0218	0.0083	0.0233	6.85%	2.60%	7.33%	2.815
125.00	Glutamic, Post-col Ninhydrin Der (%)	18	17	3.522	0.1608	0.1214	0.0354	0.1265	3.47%	1.01%	3.62%	3.571
126.00	Glycine, Post-col Ninhydrin Der (%)	18	16	0.8389	0.0350	0.0274	0.0095	0.0290	3.29%	1.14%	3.48%	3.061
127.00	Histidine, Post-col Ninhydrin Der (%)	18	15	0.5168	0.0207	0.0151	0.0057	0.0161	2.89%	1.09%	3.09%	2.831
128.00	Isoleucine, Post-col Ninhydrin Der (%)	18	17	0.7855	0.0394	0.0385	0.0118	0.0402	4.90%	1.50%	5.12%	3.418

Test Material Code # 202029

Issue Date : 10/31/2020

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
129.00	Leucine, Post-col Ninhydrin Der (%)	18	15	1.550	0.0706	0.0525	0.0116	0.0537	3.41%	0.76%	3.49%	4.624
130.00	L-Lysine, Post-col Ninhydrin Der (%)	18	17	1.044	0.0487	0.0388	0.0118	0.0406	3.74%	1.14%	3.91%	3.423
130.05	L-Lysine, Pre-col AQC Der (%)	9	8	1.045	0.0681	0.0667	0.0197	0.0695	6.38%	1.89%	6.66%	3.525
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	18	18	0.2946	0.0188	0.0180	0.0077	0.0196	6.10%	2.61%	6.64%	2.543
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	18	16	0.9405	0.0698	0.0699	0.0095	0.0706	7.40%	1.00%	7.47%	7.460
133.00	Proline, Post-col Ninhydrin Der (%)	18	16	1.149	0.1219	0.0893	0.0359	0.0962	7.64%	3.07%	8.23%	2.683
134.00	Serine, Post-col Ninhydrin Der (%)	18	16	0.9538	0.0588	0.0303	0.0092	0.0316	3.21%	0.98%	3.36%	3.431
135.00	Threonine, Post-col Ninhydrin Der (%)	18	16	0.7342	0.0358	0.0253	0.0047	0.0257	3.47%	0.64%	3.53%	5.517
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	8	8	0.2565	0.0350	0.0340	0.0115	0.0359	13.27%	4.48%	14.00%	3.127
137.00	Tyrosine, Post-col Ninhydrin Der (%)	12	10	0.6622	0.1291	0.0983	0.0184	0.1000	14.19%	2.66%	14.44%	5.427
138.00	Valine, Post-col Ninhydrin Der (%)	18	17	0.9020	0.0434	0.0417	0.0171	0.0451	4.62%	1.89%	5.00%	2.639

Notes: Precision Calculations provided for methods with 8 or more labs contributing to calculations.