



Animal Feed Scheme
Cattle Feed, Medicated
Test Material Code # 202024

Method Summary Report
(Precision Report Follows)

Labs Reporting: 164
Methods Reported: 421
Issue Date : 05/31/2020

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 (%)	2	1	0.8000							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	41	40	8.973	0.2828	8.983	0.1767	0.0349	1.97%	0.1216	2.87%
001.99	Loss on Drying, Miscellaneous (%)	18	17	8.685	0.5804	8.729	0.5417	0.1642	6.21%	0.0808	2.89%
001.03	Loss on Drying, Low temp. methods (%)	8	8	9.067	0.0885	9.060	0.0845	0.0374	0.93%	0.0371	2.87%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	2	2	8.823	0.2369						
001.05	Loss on Drying, LECO (%)	1	1	9.607							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	107	105	19.84	0.5522	19.81	0.2771	0.0338	1.40%	0.1751	2.25%
002.05	Protein, Crude, Copper, Boric Acid (%)	23	23	19.43	0.2415	19.42	0.2631	0.0686	1.35%	0.0972	2.27%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	13	12	19.63	0.2314	19.60	0.1845	0.0666	0.94%	0.0717	2.26%
002.11	Protein, Crude, NIR (%)	8	8	20.83	1.830	20.54	1.320	0.5834	6.43%	0.1156	2.21%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	2	2	19.47	0.0642						
002.04	Protein, Crude, Copper Catalyst (%)	2	2	19.67	0.1803						
002.08	Protein, Crude, Cu/Ti (%)	2	2	19.49	0.1830						
002.00	Protein, Crude, Crude (%)	1	1	19.66							
002.99	Protein, Crude, Miscellaneous (%)	1	1	20.03							
003.14	Fat, Crude, Ankom (%)	51	49	4.072	0.3212	4.049	0.2741	0.0489	6.77%	0.1082	3.24%
003.10	Fat, Crude, Randall, Pet Ether (%)	24	23	3.839	0.2129	3.831	0.1890	0.0493	4.93%	0.1256	3.27%
003.06	Fat, Crude, Pet Ether (%)	12	12	3.994	0.1823	3.997	0.1967	0.0710	4.92%	0.0714	3.25%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	12	12	4.169	0.1691	4.169	0.1917	0.0692	4.60%	0.0771	3.23%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	8	8	4.197	0.2624	4.195	0.2942	0.1300	7.01%	0.1134	3.22%
003.11	Fat, Crude, NIR (%)	6	6	4.244	0.4248	4.244	0.4818	0.2458	11.35%	0.0458	3.22%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	6	6	4.127	0.2930	4.127	0.3323	0.1696	8.05%	0.2208	3.23%
003.12	Fat, Crude, Hexane Ext (%)	4	3	3.820	0.0090	3.820	0.0090	0.0064	0.24%	0.0434	3.27%
003.99	Fat, Crude, Miscellaneous (%)	3	3	4.075	0.4469	4.075	0.4469	0.2580	10.97%	0.0367	3.24%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	4.175							
004.07	Fiber, Crude, ANKOM (%)	63	61	14.43	0.9977	14.34	0.8399	0.1344	5.86%	0.2683	2.64%
004.06	Fiber, Crude, Fibertec (%)	22	21	14.03	2.160	14.21	0.7329	0.1999	5.16%	0.1321	2.65%
004.00	Fiber, Crude, Asbestos Free (%)	11	11	14.75	0.6633	14.74	0.7125	0.2686	4.84%	0.2586	2.60%
004.11	Fiber, Crude, NIR (%)	5	5	14.29	0.8422	14.29	0.8422	0.3766	5.89%	0.1550	2.65%

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004.03	Fiber, Crude, Fritted Glass (%)	3	3	14.05	1.424	14.05	1.424	0.8223	10.14%	0.2267	2.67%
004.01	Fiber, Crude, Sing Filt (%)	1	1	13.15							
004.99	Fiber, Crude, Miscellaneous (%)	1	1	11.75							
005.00	Ash, 2h @ 600°C (%)	78	75	8.477	0.4034	8.460	0.2651	0.0383	3.13%	0.0729	2.90%
005.05	Ash, 3h @ 550°C (%)	30	30	8.654	0.2445	8.666	0.2426	0.0554	2.80%	0.0810	2.89%
005.99	Ash, Miscellaneous (%)	7	6	8.313	0.5603	8.329	0.5966	0.3045	7.16%	0.0450	2.91%
005.11	Ash, NIR (%)	3	3	7.432	1.104	7.432	1.104	0.6375	14.86%	0.1300	2.96%
005.02	Ash, LECO (%)	1	1	8.573							
005.03	Ash, Microwave furnace (%)	1	1	8.245							
006.00	Total Sugars, As sucrose (%)	2	2	4.623	1.029						
006.99	Total Sugars, Miscellaneous (%)	1	1	4.550							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	38	36	18.95	1.178	18.90	1.151	0.2397	6.09%	0.2749	2.30%
008.02	Fiber, Acid Detergent, Crucible (%)	13	13	18.85	0.8035	18.89	0.8000	0.2773	4.23%	0.2601	2.30%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	20.30							
008.99	Fiber, Acid Detergent, Miscellaneous (%)	1	1	19.79							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	37	36	34.12	4.156	34.77	1.586	0.3304	4.56%	0.3528	1.70%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	11	35.04	1.659	35.15	1.610	0.6070	4.58%	0.3133	1.69%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	3	3	35.34	1.841	35.34	1.841	1.063	5.21%	0.4567	1.68%
010.99	Moisture, Miscellaneous (%)	15	15	9.219	0.5324	9.191	0.5374	0.1735	5.85%	0.0763	2.86%
010.11	Moisture, NIR (%)	4	4	8.969	1.193	8.969	1.193	0.5966	13.30%	0.0825	2.88%
010.03	Moisture, Karl-Fischer (%)	2	2	8.575	0.3465						
011.01	Loss on Drying, 135°C 2hr (%)	58	56	9.832	0.5315	9.872	0.4809	0.0803	4.87%	0.0914	2.83%
011.02	Loss on Drying, 130°C for 2 hours (%)	2	2	9.723	0.6611						
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	9.362	0.0877						
012.00	Starch, Polarimetric (Ewers) (%)	16	16	11.44	0.5630	11.45	0.5879	0.1837	5.14%	0.1655	2.77%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	12	10.98	1.578	10.87	1.538	0.5550	14.14%	0.3485	2.79%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	4	4	10.49	1.164	10.49	1.164	0.5820	11.10%	0.6563	2.81%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	4	9.918	0.8690	9.918	0.8690	0.4345	8.76%	0.2250	2.83%
012.11	Starch, NIR (%)	2	2	11.68	1.326						
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	10.14							
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	18	5.181	0.8147	5.307	0.4844	0.1427	9.13%	0.0999	3.11%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	18	17	5.058	0.5828	5.058	0.6609	0.2004	13.07%	0.3290	3.13%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	7	7	5.620	0.6066	5.599	0.6396	0.3022	11.42%	0.2684	3.09%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	2	2	5.030	0.2404						
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	3.225							
015.43	Aluminum, ICP, Microwave (ppm)	8	8	120.1	19.34	122.5	15.51	6.855	12.66%	3.717	7.76%
015.41	Aluminum, ICP, Dry ash (ppm)	4	4	114.8	6.650	114.8	6.650	3.325	5.79%	2.823	7.83%
015.42	Aluminum, ICP, Open vessel (ppm)	2	2	104.1	65.44						
015.52	Aluminum, ICP-MS, Open vessel (ppm)	1	1	108.9							
015.53	Aluminum, ICP-MS, Microwave (ppm)	1	1	135.0							

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015.99	Aluminum, Miscellaneous (ppm)	1	1	238.0							
017.42	Boron, ICP, Open vessel (ppm)	6	6	9.390	1.196	9.337	1.233	0.6293	13.21%	0.3760	11.43%
017.43	Boron, ICP, Microwave (ppm)	7	5	9.117	0.4070	9.117	0.4070	0.2275	4.46%	0.1258	11.47%
017.41	Boron, ICP, Dry ash (ppm)	3	3	9.150	0.3610	9.150	0.3610	0.2084	3.95%	0.3793	11.46%
017.44	Boron, ICP, Dry ash (ppm)	1	1	13.39							
017.52	Boron, ICP-MS, Open vessel (ppm)	1	1	9.590							
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	8.460							
019.43	Calcium, ICP, Microwave (%)	26	26	1.504	0.1128	1.514	0.0938	0.0230	6.20%	0.0418	3.76%
019.41	Calcium, ICP, Dry ash (%)	25	24	1.510	0.0816	1.508	0.0867	0.0221	5.75%	0.0360	3.76%
019.31	Calcium, AAS, Dry ash (%)	18	16	1.504	0.0774	1.503	0.0616	0.0192	4.10%	0.0164	3.76%
019.42	Calcium, ICP, Open vessel (%)	17	16	1.529	0.1071	1.529	0.1199	0.0375	7.84%	0.0220	3.75%
019.00	Calcium, Ox-Mn04 Vol. (%)	9	9	1.457	0.1723	1.492	0.0972	0.0405	6.51%	0.0183	3.77%
019.08	Calcium, EDTA (%)	6	6	1.537	0.0295	1.537	0.0335	0.0171	2.18%	0.0089	3.75%
019.99	Calcium, Miscellaneous (%)	6	6	1.519	0.1010	1.519	0.1145	0.0584	7.54%	0.0350	3.76%
019.53	Calcium, ICP-MS, Microwave (%)	3	3	1.487	0.0896	1.487	0.0896	0.0517	6.03%	0.1000	3.77%
019.44	Calcium, ICP, Dry ash (%)	2	2	1.505	0.0707						
019.52	Calcium, ICP-MS, Open vessel (%)	2	2	1.422	0.1724						
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	1.516							
019.09	Calcium, Ion-selective electrode (%)	1	1	1.369							
019.32	Calcium, AAS, Open vessel (%)	1	1	1.475							
019.33	Calcium, AAS, Microwave (%)	1	1	1.565							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	1.645							
021.43	Cobalt, ICP, Microwave (ppm)	7	7	3.008	0.4568	3.030	0.4665	0.2204	15.40%	0.2896	13.54%
021.41	Cobalt, ICP, Dry ash (ppm)	5	5	2.819	0.5997	2.819	0.5997	0.2682	21.28%	0.0341	13.69%
021.53	Cobalt, ICP-MS, Microwave (ppm)	5	5	3.023	0.2740	3.023	0.2740	0.1225	9.06%	0.1300	13.54%
021.31	Cobalt, AAS, Dry ash (ppm)	3	3	2.988	0.3368	2.988	0.3368	0.1944	11.27%	0.1900	13.57%
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	3.263	0.8796						
021.52	Cobalt, ICP-MS, Open vessel (ppm)	2	2	2.815	0.5091						
022.43	Copper, ICP, Microwave (ppm)	22	21	62.77	5.034	62.83	5.488	1.497	8.73%	1.638	8.58%
022.41	Copper, ICP, Dry ash (ppm)	19	19	61.61	5.106	61.10	4.343	1.246	7.11%	2.294	8.61%
022.42	Copper, ICP, Open vessel (ppm)	18	17	63.01	6.144	62.42	4.635	1.405	7.43%	1.996	8.59%
022.31	Copper, AAS, Dry ash (ppm)	13	13	58.84	4.683	58.89	5.218	1.809	8.86%	1.604	8.66%
022.53	Copper, ICP-MS, Microwave (ppm)	4	4	61.66	4.180	61.66	4.180	2.090	6.78%	7.064	8.60%
022.99	Copper, Miscellaneous (ppm)	4	4	56.20	3.586	56.20	3.586	1.793	6.38%	4.600	8.72%
022.44	Copper, ICP, Dry ash (ppm)	2	2	65.32	11.06						
022.52	Copper, ICP-MS, Open vessel (ppm)	2	2	63.28	0.3889						
022.33	Copper, AAS, Microwave (ppm)	1	1	60.46							
024.53	Iodine, ICP-MS, Microwave (ppm)	1	1	6.240							
025.41	Iron, ICP, Dry ash (ppm)	19	18	397.7	40.46	396.8	42.09	12.40	10.61%	12.08	6.50%
025.43	Iron, ICP, Microwave (ppm)	18	18	396.1	88.30	410.0	45.09	13.28	11.00%	13.29	6.47%

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025.31	Iron, AAS, Dry ash (ppm)	14	14	409.2	44.80	409.9	34.74	11.61	8.48%	12.35	6.47%
025.42	Iron, ICP, Open vessel (ppm)	14	14	376.1	78.39	380.5	79.32	26.50	20.85%	10.71	6.54%
025.99	Iron, Miscellaneous (ppm)	3	3	417.7	17.79	417.7	17.79	10.27	4.26%	17.33	6.45%
025.52	Iron, ICP-MS, Open vessel (ppm)	2	2	178.9	20.56						
025.53	Iron, ICP-MS, Microwave (ppm)	2	2	381.3	18.74						
027.43	Magnesium, ICP, Microwave (%)	21	19	0.3745	0.0211	0.3750	0.0212	0.0061	5.64%	0.0084	4.64%
027.42	Magnesium, ICP, Open vessel (%)	18	18	0.3674	0.0445	0.3753	0.0269	0.0079	7.16%	0.0075	4.64%
027.41	Magnesium, ICP, Dry ash (%)	18	17	0.3809	0.0259	0.3796	0.0218	0.0066	5.73%	0.0103	4.63%
027.31	Magnesium, AAS, Dry ash (%)	11	11	0.3994	0.0649	0.3841	0.0159	0.0060	4.15%	0.0055	4.62%
027.99	Magnesium, Miscellaneous (%)	4	4	0.4113	0.0514	0.4113	0.0514	0.0257	12.49%	0.0125	4.57%
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.3887	0.0144	0.3887	0.0144	0.0083	3.69%	0.0267	4.61%
027.52	Magnesium, ICP-MS, Open vessel (%)	2	2	0.3840	0.0068						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.3850							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.3870							
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.3735							
028.43	Manganese, ICP, Microwave (ppm)	22	21	233.1	14.42	233.1	16.35	4.460	7.01%	6.734	7.04%
028.41	Manganese, ICP, Dry ash (ppm)	17	17	221.0	27.58	220.8	26.30	7.972	11.91%	10.62	7.10%
028.42	Manganese, ICP, Open vessel (ppm)	18	17	224.4	22.38	226.5	19.08	5.784	8.42%	4.562	7.07%
028.31	Manganese, AAS, Dry ash (ppm)	14	13	225.8	11.14	226.8	9.105	3.156	4.01%	5.182	7.07%
028.53	Manganese, ICP-MS, Microwave (ppm)	4	4	226.2	12.58	226.2	12.58	6.290	5.56%	6.508	7.07%
028.99	Manganese, Miscellaneous (ppm)	4	3	233.7	14.84	233.7	14.84	8.565	6.35%	2.000	7.04%
028.44	Manganese, ICP, Dry ash (ppm)	2	2	221.6	1.489						
028.52	Manganese, ICP-MS, Open vessel (ppm)	2	2	241.8	7.495						
028.33	Manganese, AAS, Microwave (ppm)	1	1	214.8							
031.01	Phosphorus, Photometric (%)	29	28	0.9117	0.0476	0.9234	0.0180	0.0043	1.95%	0.0092	4.05%
031.43	Phosphorus, ICP, Microwave (%)	25	23	0.9172	0.0523	0.9191	0.0447	0.0116	4.86%	0.0156	4.05%
031.41	Phosphorus, ICP, Dry ash (%)	23	22	0.9290	0.0734	0.9251	0.0731	0.0195	7.90%	0.0158	4.05%
031.42	Phosphorus, ICP, Open vessel (%)	17	16	0.8751	0.0859	0.8872	0.0670	0.0210	7.56%	0.0155	4.07%
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.9314	0.0128	0.9314	0.0128	0.0074	1.37%	0.0164	4.04%
031.53	Phosphorus, ICP-MS, Microwave (%)	3	3	0.9385	0.0573	0.9385	0.0573	0.0331	6.11%	0.0470	4.04%
031.99	Phosphorus, Miscellaneous (%)	4	3	0.8800	0.0300	0.8800	0.0300	0.0173	3.41%	0.0133	4.08%
031.00	Phosphorus, Vol (%)	2	2	0.9375	0.0672						
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	2	2	0.8650	0.0212						
031.44	Phosphorus, ICP, Dry ash (%)	2	2	0.9123	0.0202						
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.8269	0.0920						
031.06	Phosphorus, Hach Method (%)	1	1	0.8550							
032.43	Potassium, ICP, Microwave (%)	23	22	1.137	0.0669	1.144	0.0530	0.0141	4.63%	0.0140	3.92%
032.41	Potassium, ICP, Dry ash (%)	20	18	1.149	0.0616	1.148	0.0664	0.0196	5.79%	0.0226	3.92%
032.42	Potassium, ICP, Open vessel (%)	17	16	1.185	0.0692	1.186	0.0645	0.0202	5.44%	0.0151	3.90%
032.31	Potassium, AAS, Dry ash (%)	11	10	1.122	0.0566	1.122	0.0641	0.0254	5.72%	0.0175	3.93%

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032.99	Potassium, Miscellaneous (%)	5	5	1.137	0.0595	1.137	0.0595	0.0266	5.23%	0.0238	3.92%
032.53	Potassium, ICP-MS, Microwave (%)	3	3	1.162	0.0513	1.162	0.0513	0.0296	4.42%	0.0767	3.91%
032.44	Potassium, ICP, Dry ash (%)	2	2	1.151	0.0223						
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	1.106	0.1340						
032.32	Potassium, AAS, Open vessel (%)	1	1	1.195							
033.01	Salt as chloride, Poten Cl (%)	24	24	0.6695	0.0231	0.6685	0.0235	0.0060	3.51%	0.0223	4.25%
033.00	Salt as chloride, Sol Cl (%)	21	20	0.6086	0.0977	0.6177	0.0656	0.0183	10.62%	0.0155	4.30%
033.99	Salt, Miscellaneous (%)	8	7	0.6479	0.0846	0.6479	0.0959	0.0453	14.81%	0.0182	4.27%
033.03	Salt as chloride, Quantab (%)	6	6	0.6092	0.0607	0.6092	0.0688	0.0351	11.30%	0.0183	4.31%
033.05	Salt as chloride, Ion Sel Electrode (%)	2	2	0.6250	0.0283						
034.43	Selenium, ICP, Microwave (ppm)	8	8	2.821	1.318	2.821	1.495	0.6605	52.98%	0.0858	13.69%
034.53	Selenium, ICP-MS, Microwave (ppm)	7	7	3.217	1.125	2.940	0.5283	0.2496	17.97%	0.2730	13.60%
034.04	Selenium, AA, Hydride (ppm)	4	4	2.228	0.6583	2.228	0.6583	0.3291	29.55%	0.2088	14.18%
034.41	Selenium, ICP, Dry ash (ppm)	3	3	2.052	0.2868	2.052	0.2868	0.2028	13.98%	0.1367	14.36%
034.52	Selenium, ICP-MS, Open vessel (ppm)	2	2	2.514	0.1542						
034.99	Selenium, Miscellaneous (ppm)	2	2	2.110	1.570						
034.42	Selenium, ICP, Open vessel (ppm)	1	1	2.750							
035.41	Sodium, ICP, Dry ash (%)	21	21	0.2945	0.0195	0.2935	0.0194	0.0053	6.60%	0.0096	4.81%
035.43	Sodium, ICP, Microwave (%)	18	17	0.2906	0.0212	0.2909	0.0233	0.0071	8.02%	0.0079	4.82%
035.42	Sodium, ICP, Open vessel (%)	16	16	0.2926	0.0236	0.2921	0.0189	0.0059	6.46%	0.0068	4.81%
035.31	Sodium, AAS, Dry ash (%)	14	13	0.2919	0.0246	0.2919	0.0279	0.0097	9.57%	0.0052	4.81%
035.53	Sodium, ICP-MS, Microwave (%)	3	3	0.2810	0.0097	0.2810	0.0097	0.0056	3.46%	0.0127	4.84%
035.99	Sodium, Miscellaneous (%)	4	3	0.2917	0.0189	0.2917	0.0189	0.0134	6.49%	0.0033	4.81%
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.2916	0.0080						
035.01	Sodium, Ion-selective electrode (%)	1	1	0.3195							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.2950							
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.3100							
036.42	Sulfur, ICP, Open vessel (%)	20	20	0.6167	0.0833	0.6280	0.0558	0.0156	8.88%	0.0172	4.29%
036.43	Sulfur, ICP, Microwave (%)	14	14	0.6520	0.0445	0.6556	0.0394	0.0132	6.01%	0.0184	4.26%
036.04	Sulfur, LECO (%)	3	3	0.6133	0.0465	0.6133	0.0465	0.0268	7.58%	0.0067	4.31%
036.52	Sulfur, ICP-MS, Open vessel (%)	3	3	0.6384	0.0482	0.6384	0.0482	0.0278	7.55%	0.0297	4.28%
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.6555							
036.99	Sulfur, Miscellaneous (%)	1	1	0.5550							
037.43	Zinc, ICP, Microwave (ppm)	23	23	369.0	22.51	369.4	23.64	6.161	6.40%	12.91	6.57%
037.41	Zinc, ICP, Dry ash (ppm)	18	18	371.0	29.08	366.9	20.41	6.015	5.56%	15.29	6.58%
037.42	Zinc, ICP, Open vessel (ppm)	17	17	360.7	37.33	360.7	39.84	12.08	11.04%	14.76	6.59%
037.31	Zinc, AAS, Dry ash (ppm)	13	13	366.2	17.30	366.2	19.53	6.772	5.34%	12.52	6.58%
037.53	Zinc, ICP-MS, Microwave (ppm)	4	4	370.0	25.22	370.0	25.22	12.61	6.82%	23.45	6.57%
037.99	Zinc, Miscellaneous (ppm)	4	4	369.4	34.96	369.4	34.96	17.48	9.46%	18.25	6.57%
037.44	Zinc, ICP, Dry ash (ppm)	3	3	358.5	6.799	358.5	6.799	4.808	1.90%	4.600	6.60%

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037.33	Zinc, AAS, Microwave (ppm)	2	2	419.1	42.99						
037.52	Zinc, ICP-MS, Open vessel (ppm)	2	2	372.0	19.02						
038.43	Molybdenum, ICP, Microwave (ppm)	7	7	1.197	0.1765	1.197	0.2002	0.0946	16.72%	0.1451	15.57%
038.42	Molybdenum, ICP, Open vessel (ppm)	4	4	1.664	0.4878	1.664	0.4878	0.2439	29.32%	0.0885	14.82%
038.41	Molybdenum, ICP, Dry ash (ppm)	3	3	1.138	0.2079	1.138	0.2079	0.1200	18.26%	0.0110	15.69%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	3	3	1.332	0.0892	1.332	0.0892	0.0515	6.70%	0.0359	15.32%
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	1	1	1.025							
040.52	Barium, ICP-MS, Open vessel (ppm)	1	1	15.89							
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	14.88							
041.53	Vanadium, ICP-MS, Microwave (ppm)	1	1	1.125							
042.00	Chloride, Titrimetric (%)	2	2	0.3945	0.0134						
042.02	Chloride, Ion Chromatography (%)	1	1	0.3685							
042.99	Chloride, Miscellaneous (%)	1	1	0.3850							
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	1,650							
102.01	Niacin, Microbiological (ppm)	1	1	69.25							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	10.55							
104.00	Riboflavin, Fluorometric (ppm)	2	2	5.335	1.789						
104.03	Riboflavin, LC (ppm)	1	1	0.8900							
105.00	Thiamine, LC (ppm)	1	1	2.650							
105.01	Thiamine, Fluorometer (ppm)	1	1	3.970							
106.02	Vitamin A, LC (KU / kg)	19	19	37.90	9.257	37.78	10.25	2.939	27.13%	2.715	
106.00	Vitamin A, Color (KU / kg)	1	1	38.69							
106.01	Vitamin A, UV (KU / kg)	1	1	19.65							
107.00	Vitamin B12, Microbiological (ppb)	1	1	5.305							
108.02	Vitamin D3, LC (KU / kg)	3	3	5.327	1.562	5.327	1.562	0.9021	29.33%	0.5267	
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	6.500							
109.02	Vitamin E, LC (IU / kg)	13	13	137.0	18.93	136.6	20.45	7.089	14.97%	6.274	
111.01	Vitamin C, Ascorbic Acid, LC (ppm)	1	1	4.400							
112.01	Pyridoxine, LC (µg / g)	1	1	3.310							
113.01	Folic Acid, Micro (ppm)	1	1	1.165							
114.01	Biotin, Microbiological (ppm)	1	1	0.2595							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	4.080							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	1.015							
120.00	Alanine, Post-col Ninhydrin Der (%)	19	19	0.9482	0.0370	0.9505	0.0282	0.0081	2.96%	0.0246	4.03%
120.05	Alanine, Pre-col AQC Der (%)	5	4	1.006	0.0793	1.006	0.0793	0.0458	7.88%	0.0053	4.00%
120.99	Alanine, Miscellaneous (%)	2	2	0.8913	0.0972						
120.02	Alanine, Post-col OPA Der (%)	1	1	0.9775							
121.00	Arginine, Post-col Ninhydrin Der (%)	19	19	1.238	0.0570	1.242	0.0560	0.0161	4.51%	0.0269	3.87%
121.05	Arginine, Pre-col AQC Der (%)	5	5	1.336	0.1148	1.336	0.1148	0.0513	8.59%	0.0532	3.83%
121.99	Arginine, Miscellaneous (%)	2	2	1.131	0.1043						

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121.02	Arginine, Post-col OPA Der (%)	1	1	1.254							
122.00	Aspartic, Post-col Ninhydrin Der (%)	19	18	1.394	0.0697	1.403	0.0467	0.0138	3.33%	0.0262	3.80%
122.05	Aspartic, Pre-col AQC Der (%)	5	4	1.517	0.1275	1.517	0.1275	0.0736	8.40%	0.0048	3.76%
122.99	Aspartic, Miscellaneous (%)	2	2	1.448	0.0460						
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.437							
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	20	19	0.3399	0.0449	0.3332	0.0249	0.0071	7.47%	0.0081	4.72%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	4	4	0.3265	0.0551	0.3265	0.0551	0.0275	16.87%	0.0039	4.73%
124.99	Cysteine/Cystine, Miscellaneous (%)	2	2	0.3125	0.0177						
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.3640							
125.00	Glutamic, Post-col Ninhydrin Der (%)	19	19	3.327	0.1496	3.322	0.1554	0.0446	4.68%	0.0681	3.34%
125.05	Glutamic, Pre-col AQC Der (%)	5	4	3.258	0.0736	3.258	0.0736	0.0425	2.26%	0.0378	3.35%
125.99	Glutamic, Miscellaneous (%)	2	2	3.098	0.1520						
125.02	Glutamic, Post-col OPA Der (%)	1	1	3.298							
126.00	Glycine, Post-col Ninhydrin Der (%)	19	18	0.8708	0.0355	0.8737	0.0276	0.0081	3.15%	0.0145	4.08%
126.05	Glycine, Pre-col AQC Der (%)	5	4	0.9375	0.1231	0.9375	0.1231	0.0615	13.13%	0.0105	4.04%
126.99	Glycine, Miscellaneous (%)	2	2	0.6300	0.3465						
126.02	Glycine, Post-col OPA Der (%)	1	1	0.9060							
127.00	Histidine, Post-col Ninhydrin Der (%)	19	18	0.4805	0.0564	0.4862	0.0208	0.0061	4.29%	0.0094	4.46%
127.05	Histidine, Pre-col AQC Der (%)	5	5	0.5221	0.0778	0.5221	0.0778	0.0348	14.91%	0.0182	4.41%
127.99	Histidine, Miscellaneous (%)	2	2	0.4350	0.0707						
127.02	Histidine, Post-col OPA Der (%)	1	1	0.4905							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	19	19	0.5930	0.0382	0.5930	0.0433	0.0124	7.30%	0.0174	4.33%
128.05	Isoleucine, Pre-col AQC Der (%)	5	5	0.6332	0.0697	0.6332	0.0697	0.0312	11.00%	0.0264	4.28%
128.99	Isoleucine, Miscellaneous (%)	2	2	0.5963	0.0124						
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.6290							
129.00	Leucine, Post-col Ninhydrin Der (%)	19	19	1.405	0.0620	1.411	0.0556	0.0159	3.94%	0.0331	3.80%
129.05	Leucine, Pre-col AQC Der (%)	5	4	1.411	0.0864	1.411	0.0864	0.0432	6.12%	0.0288	3.80%
129.99	Leucine, Miscellaneous (%)	2	2	1.326	0.0831						
129.02	Leucine, Post-col OPA Der (%)	1	1	1.442							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	20	20	0.7337	0.0335	0.7317	0.0274	0.0076	3.74%	0.0229	4.19%
130.05	L-Lysine, Pre-col AQC Der (%)	6	6	0.7438	0.1022	0.7438	0.1159	0.0591	15.58%	0.0258	4.18%
130.99	L-Lysine, Miscellaneous (%)	3	3	0.7438	0.0632	0.7438	0.0632	0.0365	8.50%	0.0190	4.18%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.8200							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	20	19	0.2964	0.0417	0.2936	0.0299	0.0086	10.17%	0.0102	4.81%
131.05	Methionine, PAO Pre-col AQC Der (%)	6	6	0.3043	0.0219	0.3017	0.0186	0.0095	6.17%	0.0080	4.79%
131.99	Methionine, Miscellaneous (%)	3	3	0.2887	0.0491	0.2887	0.0491	0.0284	17.01%	0.0020	4.82%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2980							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	19	19	0.8231	0.0580	0.8216	0.0538	0.0154	6.54%	0.0188	4.12%
132.05	Phenylalanine, Pre-col AQC Der (%)	5	5	0.8513	0.0384	0.8513	0.0384	0.0172	4.51%	0.0674	4.10%
132.99	Phenylalanine, Miscellaneous (%)	2	2	0.7938	0.0371						

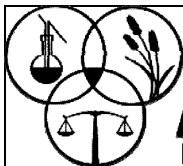
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132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.8520							
133.00	Proline, Post-col Ninhydrin Der (%)	19	18	1.086	0.1514	1.115	0.0606	0.0179	5.44%	0.0396	3.93%
133.05	Proline, Pre-col AQC Der (%)	5	5	1.227	0.0839	1.227	0.0839	0.0375	6.84%	0.0434	3.88%
133.99	Proline, Miscellaneous (%)	2	2	1.128	0.0177						
134.00	Serine, Post-col Ninhydrin Der (%)	19	19	0.8519	0.0470	0.8515	0.0445	0.0128	5.22%	0.0245	4.10%
134.05	Serine, Pre-col AQC Der (%)	5	5	0.9263	0.1223	0.9263	0.1223	0.0547	13.20%	0.0646	4.05%
134.99	Serine, Miscellaneous (%)	2	2	0.8425	0.0530						
134.02	Serine, Post-col OPA Der (%)	1	1	0.7760							
135.00	Threonine, Post-col Ninhydrin Der (%)	19	19	0.6287	0.0325	0.6305	0.0224	0.0064	3.56%	0.0144	4.29%
135.05	Threonine, Pre-col AQC Der (%)	5	5	0.6773	0.0527	0.6773	0.0527	0.0236	7.79%	0.0258	4.24%
135.99	Threonine, Miscellaneous (%)	2	2	0.6400	0.0071						
135.02	Threonine, Post-col OPA Der (%)	1	1	0.6470							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	7	0.2249	0.0207	0.2249	0.0235	0.0111	10.43%	0.0073	5.01%
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	6	6	0.2309	0.0224	0.2256	0.0120	0.0061	5.33%	0.0052	5.00%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	2	2	0.2245	0.0000						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2175							
136.05	Tryptophan, Pre-col AQC Der (%)	1	1	0.0440							
136.99	Tryptophan, Miscellaneous (%)	1	1	0.4825							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	13	13	0.5922	0.0582	0.5937	0.0626	0.0217	10.54%	0.0225	4.33%
137.05	Tyrosine, Pre-col AQC Der (%)	5	4	0.8510	0.3917	0.8510	0.3917	0.1958	46.02%	0.0055	4.10%
137.99	Tyrosine, Miscellaneous (%)	2	2	0.4888	0.0088						
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.5400							
138.00	Valine, Post-col Ninhydrin Der (%)	19	19	0.8056	0.0727	0.8189	0.0342	0.0098	4.18%	0.0176	4.12%
138.05	Valine, Pre-col AQC Der (%)	5	5	0.8049	0.1604	0.8049	0.1604	0.0717	19.93%	0.0230	4.13%
138.99	Valine, Miscellaneous (%)	2	2	0.8288	0.0654						
138.02	Valine, Post-col OPA Der (%)	1	1	0.8840							
139.00	Taurine, Post-col Ninhydrin Der (%)	1	1	0.0540							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0255							
139.99	Taurine, Miscellaneous (%)	2	1	0.0250							
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
160.10	Fructose, HPAEC PAD (%)	1	1	0.0985							
160.99	Fructose, Miscellaneous (%)	1	1	0.2950							
161.10	Galactose, HPAEC PAD (%)	1		0.0000							
162.10	Glucose, HPAEC PAD (%)	1	1	0.1815							
162.99	Glucose, Miscellaneous (%)	1	1	0.2150							
163.10	Lactose, HPAEC PAD (%)	1		0.0000							
163.99	Lactose, Miscellaneous (%)	1		0.1500							
164.10	Maltose, HPAEC PAD (%)	1	1	0.1835							
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.10	Sucrose, HPAEC PAD (%)	1	1	0.9735							

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165.99	Sucrose, Miscellaneous (%)	1	1	1.270							
166.99	Raffinose, Miscellaneous (%)	1	1	0.6900							
166.10	Raffinose, HPAEC PAD (%)	1		0.0000							
167.99	Stachyose, Miscellaneous (%)	1	1	0.1750							
167.10	Stachyose, HPAEC PAD (%)	1		0.0000							
348.06	Bacitracin, LC-MS/MS (ppm)	1		1.000							
351.05	Chlortetracycline, LC-MS/MS (ppm)	8	7	0.9094	0.7694	0.7885	0.5667	0.2677	71.86%	0.0772	16.58%
354.01	Decoquinatate, LC (UV or FL) (ppm)	6	6	37.70	7.484	37.29	7.516	3.835	20.15%	2.302	9.28%
354.02	Decoquinatate, LC (ppm)	4	4	36.12	0.5807	36.12	0.5807	0.2904	1.61%	1.083	9.32%
354.04	Decoquinatate, LC-MS/MS (ppm)	4	3	34.17	3.629	34.17	3.629	2.095	10.62%	0.4300	9.40%
355.03	Erythromycin, LC-MS/MS (ppm)	1		0.5000							
365.05	Monensin, LC-MS/MS (ppm)	10	10	33.41	8.236	34.17	7.442	2.942	21.78%	2.273	9.40%
365.03	Monensin, LC-PCD (ppm)	6	6	31.85	4.664	32.55	3.541	1.807	10.88%	0.6800	9.47%
365.00	Monensin, Plate (ppm)	2	2	30.76	1.830						
365.02	Monensin, LC (ppm)	1	1	35.45							
365.04	Monensin, LC-MS (ppm)	1	1	37.29							
365.99	Monensin, Miscellaneous (ppm)	1	1	29.00							
373.06	Oxytetracycline, LC-MS/MS (ppm)	1		1.000							
374.04	Penicillin, LC-MS/MS (ppm)	1		0.2500							
382.04	Sulfamethazine, LC-MS/MS (ppm)	5	3	0.0485	0.0008	0.0485	0.0008	0.0004	1.57%	0.0010	22.00%
386.02	Tiamulin, LC-MS/MS (ppm)	3	2	0.1755	0.0997	0.1755	0.0997			0.0732	20.79%
388.05	Tylosin, LC-MS/MS (ppm)	1		0.5000							
389.03	Virginiamycin, LC-MS/MS (ppm)	1		0.1000							
400.01	Water Activity, Aqualab chilled mirror (Units)	8	7	0.5442	0.0345	0.5356	0.0158	0.0075	2.95%	0.0043	
400.99	Water Activity, Miscellaneous (Units)	4	4	0.5044	0.0538	0.5044	0.0538	0.0269	10.67%	0.0038	
516.53	Arsenic, Total, ICP-MS, Microwave (ppm)	5	4	0.1637	0.0229	0.1637	0.0229	0.0132	14.00%	0.0036	21.00%
516.00	Arsenic, Total, AA, Hydride (ppm)	2	2	0.1333	0.0067						
516.43	Arsenic, Total, ICP, Microwave (ppm)	3	2	0.6475	0.6852	0.6475	0.6852			0.0050	17.08%
516.52	Arsenic, Total, ICP-MS, Open vessel (ppm)	2	2	0.1423	0.0180						
516.99	Arsenic, Total, Miscellaneous (ppm)	1		0.1000							
518.53	Cadmium, ICP-MS, Microwave (ppm)	4	4	0.1315	0.0028	0.1315	0.0028	0.0014	2.12%	0.0048	21.71%
518.43	Cadmium, ICP, Microwave (ppm)	4	3	0.1286	0.0136	0.1286	0.0136	0.0096	10.57%	0.0033	21.78%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.1174	0.0002						
518.52	Cadmium, ICP-MS, Open vessel (ppm)	2	2	0.1233	0.0046						
518.99	Cadmium, Miscellaneous (ppm)	1	1	16.50							
518.31	Cadmium, AAS, Dry ash (ppm)	1		0.2000							
520.43	Chromium, ICP, Microwave (ppm)	4	3	4.419	1.617	4.419	1.617	0.9335	36.59%	0.0210	12.79%
520.53	Chromium, ICP-MS, Microwave (ppm)	3	3	4.063	1.425	4.063	1.425	0.8227	35.07%	0.2993	12.95%
520.41	Chromium, ICP, Dry ash (ppm)	2	2	1.487	0.6683						
520.42	Chromium, ICP, Open vessel (ppm)	2	2	4.799	0.4253						

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520.52	Chromium, ICP-MS, Open vessel (ppm)	1	1	1.789							
526.53	Lead, ICP-MS, Microwave (ppm)	5	5	0.1595	0.0079	0.1595	0.0079	0.0036	4.98%	0.0133	21.09%
526.41	Lead, ICP, Dry ash (ppm)	2	2	0.1084	0.0274						
526.43	Lead, ICP, Microwave (ppm)	3	2	0.1428	0.0039	0.1428	0.0039			0.0303	21.44%
526.52	Lead, ICP-MS, Open vessel (ppm)	1	1	0.1550							
526.99	Lead, Miscellaneous (ppm)	1	1	3.000							
526.31	Lead, AAS, Dry ash (ppm)	1		0.2000							
529.99	Mercury, Miscellaneous (ppb)	5	1								
539.53	Nickel, ICP-MS, Microwave (ppm)	3	3	2.095	0.4957	2.095	0.4957	0.2862	23.66%	0.0855	14.31%
539.41	Nickel, ICP, Dry ash (ppm)	2	2	1.825	0.2038						
539.43	Nickel, ICP, Microwave (ppm)	2	2	2.669	0.5675						
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	1.471							
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0000							
704.00	Caproic Acid (6:0) , Miscellaneous GC (%)	1	1	0.0020							
706.01	Caprylic acid (8:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0050							
708.01	Capric acid (10:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0060							
710.01	Lauric Acid (12:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0090							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	2		0.0050							
714.01	Myristic Acid (14:0) , Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0180							
714.02	Myristic Acid (14:0) , Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	0.0135							
714.99	Myristic Acid (14:0) , Miscellaneous (% (w/w))	2	1	0.0110							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.8023	0.0534						
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.8855							
716.02	Palmitic Acid (16:0), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	0.8200							
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0240							
718.02	Palmitoleic Acid (9c-16:1), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	0.0150							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	1	1	0.0150							
720.02	Margaric acid (17:0), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	0.0089							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	2	0.1338	0.0088						
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.1110							
722.02	Stearic Acid (18:0), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	0.1395							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.9428	0.0032						
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	1.080							
724.02	Oleic Acid (9c-18:1), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	2	2	2.159	0.0764						
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	2.565							
726.02	Linoleic Acid (9c,12c-18:2), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	2.385							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	2	2	0.1240	0.0057						
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis	1	1	0.1870							
728.02	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Acid-Alkali Hydrolysis	1	1	0.1410							

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
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0300							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	1	0.0145							
730.02	Arachidic Acid (20:0), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0320							
732.02	Gondoic Acid (11c-20:1), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	0.0195							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	1	0.0195							
736.01	Arachidonic Acid (5c,8c,11c,14c-20:4), Direct Methylation by Alkali Hydrolysis	1		0.0000							
738.01	Mead Acid (11c,14c,17c-20:3), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
740.01	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	1		0.0000							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	1	0.0115							
744.01	Erucic Acid (13c-22:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0290							
744.02	Erucic Acid (13c-22:1), Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.0050							
746.01	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	1		0.0000							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	1	1	0.0130							
750.01	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	1		0.0050							
752.01	Nervonic Acid (24:1) isomers, Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	1		0.0050							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	1	1	0.1250							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	1	1	2.120							
758.02	Total Saturated Fatty Acids, Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	0.9891							
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.060							
762.02	Total Monounsaturated Fatty Acids, Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	1.074							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.055							
766.02	Total Polyunsaturated Fatty Acids, Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	2.613							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	2.255							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	4.595							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	4.325	0.0919						
772.02	Total Fatty Acids, Direct Methylation by Acid-Alkali Hydrolysis & GC (% (w/w))	1	1	4.677							

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

Cattle Feed, Medicated

Test Material Code # 202024

Method Precision Report

Methods Reported: 87

Labs Reporting: 164

Issue Date : 05/31/2020

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	9.067	0.0885	0.0852	0.0339	0.0917	0.94%	0.37%	1.01%	2.708
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	41	38	8.973	0.2828	0.1619	0.1045	0.1927	1.80%	1.16%	2.15%	1.845
001.99	Loss on Drying, Miscellaneous (%)	18	16	8.685	0.5804	0.4406	0.0714	0.4463	5.02%	0.81%	5.08%	6.247
002.01	Protein, Crude, Auto Kjel-Foss (%)	13	10	19.63	0.2314	0.1487	0.0405	0.1542	0.76%	0.21%	0.79%	3.804
002.05	Protein, Crude, Copper, Boric Acid (%)	23	22	19.43	0.2415	0.2332	0.0835	0.2477	1.20%	0.43%	1.27%	2.964
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	107	100	19.84	0.5522	0.2970	0.1563	0.3356	1.50%	0.79%	1.69%	2.148
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	8	8	4.197	0.2624	0.2524	0.1016	0.2721	6.01%	2.42%	6.48%	2.678
003.06	Fat, Crude, Pet Ether (%)	12	11	3.994	0.1823	0.1816	0.0513	0.1887	4.53%	1.28%	4.71%	3.678
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	12	11	4.169	0.1691	0.1696	0.0582	0.1793	4.08%	1.40%	4.31%	3.083
003.10	Fat, Crude, Randall, Pet Ether (%)	24	21	3.839	0.2129	0.1381	0.1082	0.1754	3.60%	2.82%	4.58%	1.622
003.14	Fat, Crude, Ankom (%)	51	46	4.072	0.3212	0.2751	0.0875	0.2886	6.78%	2.16%	7.11%	3.300
004.00	Fiber, Crude, Asbestos Free (%)	11	11	14.75	0.6633	0.6432	0.2289	0.6827	4.36%	1.55%	4.63%	2.983
004.06	Fiber, Crude, Fibertec (%)	22	20	14.03	2.160	1.046	0.1362	1.054	7.24%	0.94%	7.30%	7.741
004.07	Fiber, Crude, ANKOM (%)	63	57	14.43	0.9977	0.8964	0.2258	0.9244	6.25%	1.57%	6.44%	4.094
005.00	Ash, 2h @ 600°C (%)	78	72	8.477	0.4034	0.2721	0.0633	0.2794	3.23%	0.75%	3.31%	4.414
005.05	Ash, 3h @ 550°C (%)	30	28	8.654	0.2445	0.2085	0.0692	0.2197	2.40%	0.80%	2.53%	3.175
008.02	Fiber, Acid Detergent, Crucible (%)	13	13	18.85	0.8035	0.7863	0.2334	0.8202	4.17%	1.24%	4.35%	3.515
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	38	34	18.95	1.178	1.123	0.2079	1.142	5.91%	1.09%	6.01%	5.493
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	11	35.04	1.659	1.648	0.2631	1.669	4.70%	0.75%	4.76%	6.343
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	37	33	34.12	4.156	1.546	0.2784	1.571	4.42%	0.80%	4.49%	5.645
010.99	Moisture, Miscellaneous (%)	15	15	9.219	0.5324	0.5303	0.0663	0.5345	5.75%	0.72%	5.80%	8.058
011.01	Loss on Drying, 135°C 2hr (%)	58	54	9.832	0.5315	0.4877	0.0849	0.4950	4.95%	0.86%	5.02%	5.829
012.00	Starch, Polarimetric (Ewers) (%)	16	15	11.44	0.5630	0.5715	0.1317	0.5865	4.99%	1.15%	5.12%	4.453
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	11	10.98	1.578	1.644	0.2277	1.660	14.94%	2.07%	15.09%	7.290
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	18	16	5.058	0.5828	0.5731	0.2556	0.6275	11.31%	5.05%	12.39%	2.455
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	18	16	5.181	0.8147	0.4617	0.0921	0.4708	8.62%	1.72%	8.79%	5.110
019.00	Calcium, Ox-Mn04 Vol. (%)	9	8	1.457	0.1723	0.0699	0.0132	0.0712	4.63%	0.88%	4.71%	5.384
019.31	Calcium, AAS, Dry ash (%)	18	16	1.504	0.0774	0.0765	0.0166	0.0783	5.09%	1.11%	5.21%	4.709
019.41	Calcium, ICP, Dry ash (%)	25	23	1.510	0.0816	0.0741	0.0309	0.0803	4.93%	2.05%	5.34%	2.599
019.42	Calcium, ICP, Open vessel (%)	17	15	1.529	0.1071	0.1100	0.0149	0.1110	7.19%	0.97%	7.25%	7.445
019.43	Calcium, ICP, Microwave (%)	26	24	1.504	0.1128	0.0927	0.0382	0.1003	6.11%	2.52%	6.61%	2.624
022.31	Copper, AAS, Dry ash (ppm)	13	13	58.84	4.683	4.545	1.595	4.817	7.72%	2.71%	8.19%	3.019
022.41	Copper, ICP, Dry ash (ppm)	19	18	61.61	5.106	3.383	1.946	3.903	5.57%	3.20%	6.42%	2.006
022.42	Copper, ICP, Open vessel (ppm)	18	14	63.01	6.144	4.074	1.195	4.245	6.62%	1.94%	6.90%	3.552
022.43	Copper, ICP, Microwave (ppm)	22	20	62.77	5.034	4.499	1.436	4.723	7.11%	2.27%	7.47%	3.289
025.31	Iron, AAS, Dry ash (ppm)	14	13	409.2	44.80	45.38	9.480	46.36	11.15%	2.33%	11.39%	4.891

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
025.41	Iron, ICP, Dry ash (ppm)	19	17	397.7	40.46	34.89	8.840	35.99	8.89%	2.25%	9.17%	4.072
025.42	Iron, ICP, Open vessel (ppm)	14	13	376.1	78.39	68.25	7.905	68.70	17.61%	2.04%	17.73%	8.691
025.43	Iron, ICP, Microwave (ppm)	18	16	396.1	88.30	38.16	10.97	39.70	9.15%	2.63%	9.52%	3.619
027.31	Magnesium, AAS, Dry ash (%)	11	10	0.3994	0.0649	0.0148	0.0056	0.0158	3.89%	1.46%	4.16%	2.850
027.41	Magnesium, ICP, Dry ash (%)	18	16	0.3809	0.0259	0.0190	0.0095	0.0212	5.03%	2.51%	5.62%	2.242
027.42	Magnesium, ICP, Open vessel (%)	18	16	0.3674	0.0445	0.0256	0.0058	0.0262	6.85%	1.54%	7.02%	4.546
027.43	Magnesium, ICP, Microwave (%)	21	18	0.3745	0.0211	0.0209	0.0065	0.0219	5.56%	1.74%	5.82%	3.340
028.31	Manganese, AAS, Dry ash (ppm)	14	12	225.8	11.14	6.905	4.460	8.221	3.03%	1.95%	3.60%	1.843
028.41	Manganese, ICP, Dry ash (ppm)	17	17	221.0	27.58	26.74	9.514	28.38	12.10%	4.30%	12.84%	2.984
028.42	Manganese, ICP, Open vessel (ppm)	18	15	224.4	22.38	16.07	3.699	16.49	7.03%	1.62%	7.22%	4.459
028.43	Manganese, ICP, Microwave (ppm)	22	21	233.1	14.42	13.57	6.892	15.22	5.82%	2.96%	6.53%	2.208
031.01	Phosphorus, Photometric (%)	29	26	0.9117	0.0476	0.0297	0.0079	0.0308	3.23%	0.86%	3.35%	3.872
031.41	Phosphorus, ICP, Dry ash (%)	23	20	0.9290	0.0734	0.0561	0.0111	0.0571	6.13%	1.21%	6.25%	5.158
031.42	Phosphorus, ICP, Open vessel (%)	17	15	0.8751	0.0859	0.0628	0.0151	0.0646	7.05%	1.70%	7.25%	4.270
031.43	Phosphorus, ICP, Microwave (%)	25	21	0.9172	0.0523	0.0382	0.0132	0.0404	4.12%	1.43%	4.36%	3.060
032.31	Potassium, AAS, Dry ash (%)	11	9	1.122	0.0566	0.0485	0.0118	0.0499	4.28%	1.05%	4.41%	4.217
032.41	Potassium, ICP, Dry ash (%)	20	18	1.149	0.0616	0.0600	0.0199	0.0632	5.22%	1.73%	5.50%	3.171
032.42	Potassium, ICP, Open vessel (%)	17	15	1.185	0.0692	0.0597	0.0097	0.0605	5.08%	0.83%	5.14%	6.225
032.43	Potassium, ICP, Microwave (%)	23	21	1.137	0.0669	0.0463	0.0133	0.0482	4.04%	1.16%	4.20%	3.616
033.00	Salt as chloride, Sol Cl (%)	21	18	0.6086	0.0977	0.0500	0.0144	0.0520	8.09%	2.33%	8.42%	3.615
033.01	Salt as chloride, Poten Cl (%)	24	24	0.6695	0.0231	0.0169	0.0221	0.0279	2.53%	3.31%	4.16%	1.259
035.31	Sodium, AAS, Dry ash (%)	14	13	0.2919	0.0246	0.0244	0.0049	0.0249	8.35%	1.69%	8.52%	5.031
035.41	Sodium, ICP, Dry ash (%)	21	21	0.2945	0.0195	0.0184	0.0089	0.0205	6.25%	3.04%	6.95%	2.288
035.42	Sodium, ICP, Open vessel (%)	16	14	0.2926	0.0236	0.0182	0.0065	0.0193	6.31%	2.25%	6.70%	2.983
035.43	Sodium, ICP, Microwave (%)	18	17	0.2906	0.0212	0.0205	0.0078	0.0219	7.05%	2.70%	7.55%	2.797
036.42	Sulfur, ICP, Open vessel (%)	20	18	0.6167	0.0833	0.0448	0.0159	0.0475	7.05%	2.51%	7.48%	2.982
036.43	Sulfur, ICP, Microwave (%)	14	12	0.6520	0.0445	0.0283	0.0162	0.0326	4.26%	2.44%	4.91%	2.012
037.31	Zinc, AAS, Dry ash (ppm)	13	13	366.2	17.30	15.09	11.98	19.27	4.12%	3.27%	5.26%	1.608
037.41	Zinc, ICP, Dry ash (ppm)	18	17	371.0	29.08	14.03	15.11	20.62	3.84%	4.14%	5.64%	1.365
037.42	Zinc, ICP, Open vessel (ppm)	17	16	360.7	37.33	37.63	11.26	39.28	10.45%	3.13%	10.91%	3.489
037.43	Zinc, ICP, Microwave (ppm)	23	23	369.0	22.51	20.70	12.50	24.19	5.61%	3.39%	6.55%	1.935
106.02	Vitamin A, LC (KU / kg)	19	18	37.90	9.257	9.381	2.326	9.666	24.74%	6.14%	25.49%	4.155
109.02	Vitamin E, LC (IU / kg)	13	13	137.0	18.93	18.45	6.026	19.41	13.46%	4.40%	14.16%	3.220
120.00	Alanine, Post-col Ninhydrin Der (%)	19	17	0.9482	0.0370	0.0252	0.0193	0.0318	2.65%	2.02%	3.33%	1.648
121.00	Arginine, Post-col Ninhydrin Der (%)	19	18	1.238	0.0570	0.0563	0.0210	0.0601	4.54%	1.69%	4.85%	2.867
122.00	Aspartic, Post-col Ninhydrin Der (%)	19	16	1.394	0.0697	0.0468	0.0191	0.0505	3.32%	1.36%	3.59%	2.641
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	20	18	0.3399	0.0449	0.0228	0.0076	0.0240	6.87%	2.30%	7.25%	3.150
125.00	Glutamic, Post-col Ninhydrin Der (%)	19	19	3.327	0.1496	0.1440	0.0572	0.1549	4.33%	1.72%	4.66%	2.709
126.00	Glycine, Post-col Ninhydrin Der (%)	19	17	0.8708	0.0355	0.0276	0.0135	0.0307	3.16%	1.54%	3.51%	2.285
127.00	Histidine, Post-col Ninhydrin Der (%)	19	16	0.4805	0.0564	0.0293	0.0070	0.0301	5.95%	1.42%	6.11%	4.294
128.00	Isoleucine, Post-col Ninhydrin Der (%)	19	19	0.5930	0.0382	0.0363	0.0170	0.0400	6.11%	2.86%	6.75%	2.357
129.00	Leucine, Post-col Ninhydrin Der (%)	19	18	1.405	0.0620	0.0603	0.0262	0.0657	4.30%	1.87%	4.69%	2.508
130.00	L-Lysine, Post-col Ninhydrin Der (%)	20	18	0.7337	0.0335	0.0216	0.0176	0.0278	2.95%	2.42%	3.82%	1.580
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	20	17	0.2964	0.0417	0.0234	0.0085	0.0249	7.98%	2.89%	8.49%	2.937
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	19	17	0.8231	0.0580	0.0467	0.0149	0.0490	5.70%	1.82%	5.99%	3.289
133.00	Proline, Post-col Ninhydrin Der (%)	19	16	1.086	0.1514	0.0406	0.0349	0.0536	3.65%	3.14%	4.81%	1.534

Test Material Code # 202024

Issue Date : 05/31/2020

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
134.00	Serine, Post-col Ninhydrin Der (%)	19	18	0.8519	0.0470	0.0448	0.0204	0.0492	5.27%	2.40%	5.79%	2.410
135.00	Threonine, Post-col Ninhydrin Der (%)	19	18	0.6287	0.0325	0.0229	0.0128	0.0263	3.62%	2.02%	4.14%	2.050
137.00	Tyrosine, Post-col Ninhydrin Der (%)	13	12	0.5922	0.0582	0.0478	0.0185	0.0512	7.94%	3.07%	8.52%	2.772
138.00	Valine, Post-col Ninhydrin Der (%)	19	18	0.8056	0.0727	0.0291	0.0133	0.0320	3.54%	1.62%	3.89%	2.404
365.05	Monensin, LC-MS/MS (ppm)	10	8	33.41	8.236	5.036	1.562	5.273	14.61%	4.53%	15.29%	3.375

Notes: Precision Calculations provided for methods with 8 or more labs used in calculations.