



**Animal Feed Scheme**  
**Chicken Layer, Medicated**  
**Test Material Code # 202021**

**Method Summary Report**  
(Precision Report Follows)

**# Labs Reporting: 170**  
**# Methods Reported: 400**  
**Issue Date : 02/29/2020**

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
000.02	Urea, As protein, Colorimetric (%)	1	1	0.3000							
000.99	Urea, Miscellaneous (%)	1	1	0.4773							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	44	42	9.336	0.3671	9.361	0.2600	0.0502	2.78%	0.1118	2.86%
001.99	Loss on Drying, Miscellaneous (%)	17	17	8.970	0.6230	9.027	0.5508	0.1670	6.10%	0.1339	2.87%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	9.357	0.2288	9.357	0.2288	0.1321	2.45%	0.0357	2.86%
001.03	Loss on Drying, Low temp. methods (%)	4	3	9.488	0.1328	9.488	0.1328	0.0766	1.40%	0.0303	2.85%
001.05	Loss on Drying, LECO (%)	2	2	9.218	0.0470						
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	113	111	18.31	0.3115	18.28	0.2408	0.0286	1.32%	0.1645	2.34%
002.05	Protein, Crude, Copper, Boric Acid (%)	23	23	17.86	1.407	17.97	0.3256	0.0849	1.81%	0.1021	2.36%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	14	14	18.13	0.3368	18.09	0.2798	0.0935	1.55%	0.1382	2.35%
002.11	Protein, Crude, NIR (%)	7	7	20.24	2.004	20.13	2.028	0.9581	10.07%	0.0914	2.23%
002.00	Protein, Crude, Crude (%)	2	2	18.20	0.1944						
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	2	2	18.01	0.0781						
002.08	Protein, Crude, Cu/Ti (%)	2	2	18.08	0.0245						
002.04	Protein, Crude, Copper Catalyst (%)	1	1	17.78							
002.09	Protein, Crude, Selenium Catalyst (%)	1	1	18.07							
002.99	Protein, Crude, Miscellaneous (%)	1	1	17.32							
003.14	Fat, Crude, Ankom (%)	46	46	3.685	0.2133	3.707	0.1833	0.0338	4.94%	0.1319	3.28%
003.10	Fat, Crude, Randall, Pet Ether (%)	25	25	3.786	0.2614	3.741	0.1459	0.0365	3.90%	0.0766	3.28%
003.06	Fat, Crude, Pet Ether (%)	14	13	3.819	0.1479	3.817	0.1429	0.0495	3.74%	0.0513	3.27%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	13	13	3.888	0.1452	3.893	0.1524	0.0528	3.91%	0.0509	3.26%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	11	11	3.897	0.1658	3.882	0.1094	0.0412	2.82%	0.0655	3.26%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	8	3.766	0.1385	3.767	0.0624	0.0276	1.66%	0.0563	3.28%
003.11	Fat, Crude, NIR (%)	5	4	4.182	0.3727	4.182	0.3727	0.1864	8.91%	0.0038	3.22%
003.99	Fat, Crude, Miscellaneous (%)	5	4	3.939	0.4511	3.939	0.4511	0.2256	11.45%	0.2175	3.25%
003.12	Fat, Crude, Hexane Ext (%)	3	3	3.742	0.1760	3.742	0.1760	0.1245	4.70%	0.1478	3.28%
004.07	Fiber, Crude, ANKOM (%)	62	61	3.611	0.7454	3.562	0.7131	0.1141	20.02%	0.2296	3.30%
004.06	Fiber, Crude, Fibertec (%)	17	16	3.310	0.2332	3.288	0.1990	0.0622	6.05%	0.0810	3.34%
004.00	Fiber, Crude, Asbestos Free (%)	13	13	3.550	0.5427	3.522	0.5497	0.1906	15.61%	0.1444	3.31%

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004.11	Fiber, Crude, NIR (%)	6	5	3.665	0.6563	3.665	0.6563	0.3669	17.91%	0.0500	3.29%
004.03	Fiber, Crude, Fritted Glass (%)	3	3	3.433	0.8031	3.433	0.8031	0.5679	23.39%	0.2867	3.32%
004.99	Fiber, Crude, Miscellaneous (%)	3	3	13.61	12.12	13.61	12.12	6.996	89.02%	0.1130	2.70%
004.01	Fiber, Crude, Sing Filt (%)	1	1	3.450							
005.00	Ash, 2h @ 600°C (%)	90	<b>88</b>	12.54	0.9659	<b>12.72</b>	0.6694	0.0892	5.26%	0.1568	2.73%
005.05	Ash, 3h @ 550°C (%)	27	<b>27</b>	13.29	0.4005	<b>13.35</b>	0.2435	0.0586	1.82%	0.0937	2.71%
005.99	Ash, Miscellaneous (%)	7	<b>7</b>	12.78	1.600	<b>13.29</b>	0.3332	0.1574	2.51%	0.0857	2.71%
005.11	Ash, NIR (%)	5	5	9.120	3.041	9.120	3.041	1.360	33.35%	0.1782	2.87%
005.02	Ash, LECO (%)	2	2	13.20	0.0286						
005.03	Ash, Microwave furnace (%)	1	1	12.90							
006.00	Total Sugars, As sucrose (%)	3	3	3.922	0.4294	3.922	0.4294	0.2479	10.95%	0.4040	3.26%
006.99	Total Sugars, Miscellaneous (%)	2	2	3.075	1.096						
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	41	<b>40</b>	4.668	0.5584	<b>4.672</b>	0.5962	0.1178	12.76%	0.2521	3.17%
008.02	Fiber, Acid Detergent, Crucible (%)	10	<b>10</b>	4.656	0.4684	<b>4.657</b>	0.5277	0.2086	11.33%	0.2473	3.17%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	3	3	5.770	1.154	5.770	1.154	0.6661	20.00%	0.3533	3.07%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	5.285							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	41	<b>39</b>	11.56	0.8951	<b>11.50</b>	0.8423	0.1686	7.33%	0.2716	2.77%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	<b>12</b>	11.98	1.213	<b>11.99</b>	1.357	0.4897	11.32%	0.4631	2.75%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	2	2	13.50	0.6399						
010.99	Moisture, Miscellaneous (%)	14	<b>14</b>	9.650	0.6093	<b>9.612</b>	0.5244	0.1752	5.46%	0.0984	2.85%
010.11	Moisture, NIR (%)	4	4	9.774	0.8175	9.774	0.8175	0.4087	8.36%	0.2213	2.84%
010.03	Moisture, Karl-Fischer (%)	2	2	9.150	0.4667						
011.01	Loss on Drying, 135°C 2hr (%)	60	<b>59</b>	10.06	0.8317	<b>10.00</b>	0.3561	0.0580	3.56%	0.0684	2.83%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	4	4	9.570	0.5296	9.570	0.5296	0.2648	5.53%	0.3065	2.85%
011.02	Loss on Drying, 130°C for 2 hours (%)	3	3	9.990	0.1609	9.990	0.1609	0.0929	1.61%	0.0400	2.83%
012.00	Starch, Polarimetric (Ewers) (%)	14	<b>13</b>	33.83	1.125	<b>34.07</b>	0.6733	0.2334	1.98%	0.2449	1.71%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	9	<b>9</b>	30.97	1.968	<b>30.97</b>	2.232	0.9300	7.21%	0.7538	1.80%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	5	31.79	1.561	31.79	1.561	0.6981	4.91%	0.5544	1.77%
012.11	Starch, NIR (%)	5	5	35.80	1.557	35.80	1.557	0.6961	4.35%	0.3038	1.67%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	4	4	32.34	2.028	32.34	2.028	1.014	6.27%	0.2133	1.76%
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	31.89							
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	<b>18</b>	5.053	0.4198	<b>5.051</b>	0.4725	0.1392	9.36%	0.1654	3.13%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	<b>17</b>	4.560	0.5281	<b>4.593</b>	0.5132	0.1556	11.17%	0.1587	3.18%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	6	<b>6</b>	4.395	0.3352	<b>4.497</b>	0.1087	0.0555	2.42%	0.0887	3.19%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	5	5	4.451	0.5159	4.451	0.5159	0.2307	11.59%	0.2048	3.19%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	7.104							
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	4.100							
015.43	Aluminum, ICP, Microwave (ppm)	7	<b>7</b>	225.6	24.16	<b>225.6</b>	27.40	12.94	12.14%	6.497	7.08%
015.41	Aluminum, ICP, Dry ash (ppm)	5	5	242.2	37.76	242.2	37.76	16.89	15.59%	10.69	7.00%
015.42	Aluminum, ICP, Open vessel (ppm)	2	2	69.55	27.37						

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015.52	Aluminum, ICP-MS, Open vessel (ppm)	1	1	120.7							
017.42	Boron, ICP, Open vessel (ppm)	6	6	11.40	1.590	11.08	0.9748	0.4975	8.80%	1.108	11.14%
017.43	Boron, ICP, Microwave (ppm)	7	6	10.25	0.9447	10.25	1.071	0.5467	10.45%	0.1602	11.27%
017.41	Boron, ICP, Dry ash (ppm)	5	5	11.90	1.439	11.90	1.439	0.6435	12.09%	0.2986	11.02%
017.44	Boron, ICP, Dry ash (ppm)	1	1	10.24							
017.52	Boron, ICP-MS, Open vessel (ppm)	1	1	10.98							
019.41	Calcium, ICP, Dry ash (%)	30	30	4.093	0.3031	4.105	0.2359	0.0538	5.75%	0.1321	3.23%
019.43	Calcium, ICP, Microwave (%)	28	27	4.160	0.2173	4.152	0.1900	0.0457	4.58%	0.0728	3.23%
019.42	Calcium, ICP, Open vessel (%)	16	16	4.211	0.2159	4.211	0.2448	0.0765	5.81%	0.1244	3.22%
019.31	Calcium, AAS, Dry ash (%)	15	14	3.968	0.5568	4.075	0.2258	0.0754	5.54%	0.0951	3.24%
019.00	Calcium, Ox-Mn04 Vol. (%)	9	9	4.043	0.3352	4.089	0.2588	0.1078	6.33%	0.0846	3.24%
019.08	Calcium, EDTA (%)	8	8	4.175	0.1841	4.179	0.2012	0.0889	4.82%	0.0372	3.23%
019.99	Calcium, Miscellaneous (%)	4	3	4.182	0.1764	4.182	0.1764	0.1018	4.22%	0.0167	3.22%
019.44	Calcium, ICP, Dry ash (%)	2	2	4.105	0.1980						
019.52	Calcium, ICP-MS, Open vessel (%)	2	2	4.333	0.1164						
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	4.309							
019.09	Calcium, Ion-selective electrode (%)	1	1	4.573							
019.32	Calcium, AAS, Open vessel (%)	1	1	4.080							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	2.210							
019.53	Calcium, ICP-MS, Microwave (%)	1	1	3.900							
021.43	Cobalt, ICP, Microwave (ppm)	8	8	1.314	0.2793	1.288	0.2519	0.1113	19.56%	0.1245	15.40%
021.41	Cobalt, ICP, Dry ash (ppm)	4	4	1.090	0.3893	1.090	0.3893	0.1947	35.72%	0.0369	15.79%
021.52	Cobalt, ICP-MS, Open vessel (ppm)	4	4	1.115	0.0901	1.115	0.0901	0.0450	8.08%	0.0900	15.74%
021.31	Cobalt, AAS, Dry ash (ppm)	3	3	1.037	0.5358	1.037	0.5358	0.3093	51.68%	0.1200	15.91%
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	1.066	0.3521						
021.53	Cobalt, ICP-MS, Microwave (ppm)	2	2	1.137	0.1456						
021.99	Cobalt, Miscellaneous (ppm)	1		0.1000							
022.43	Copper, ICP, Microwave (ppm)	25	25	27.80	2.550	27.73	2.754	0.6885	9.93%	1.558	9.70%
022.41	Copper, ICP, Dry ash (ppm)	23	23	27.11	1.991	27.03	1.950	0.5082	7.21%	1.302	9.74%
022.42	Copper, ICP, Open vessel (ppm)	18	17	28.11	2.664	28.05	2.459	0.7455	8.77%	1.416	9.69%
022.31	Copper, AAS, Dry ash (ppm)	12	11	26.87	2.468	27.07	2.293	0.8643	8.47%	1.027	9.74%
022.52	Copper, ICP-MS, Open vessel (ppm)	3	3	29.50	3.595	29.50	3.595	2.076	12.19%	0.3933	9.61%
022.99	Copper, Miscellaneous (ppm)	3	3	27.25	2.462	27.25	2.462	1.422	9.04%	2.367	9.73%
022.33	Copper, AAS, Microwave (ppm)	2	2	28.36	2.138						
022.44	Copper, ICP, Dry ash (ppm)	2	2	29.03	0.6718						
022.53	Copper, ICP-MS, Microwave (ppm)	1	1	24.32							
024.53	Iodine, ICP-MS, Microwave (ppm)	1	1	5.360							
025.41	Iron, ICP, Dry ash (ppm)	24	24	274.7	27.06	275.7	27.23	6.947	9.88%	11.18	6.87%
025.43	Iron, ICP, Microwave (ppm)	23	23	282.9	26.03	282.1	27.67	7.212	9.81%	9.293	6.84%
025.42	Iron, ICP, Open vessel (ppm)	15	15	250.0	44.97	251.2	26.94	8.694	10.72%	7.424	6.96%

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025.31	Iron, AAS, Dry ash (ppm)	13	13	291.2	35.90	292.0	32.38	11.23	11.09%	7.472	6.81%
025.99	Iron, Miscellaneous (ppm)	3	3	247.0	4.583	247.0	4.583	2.646	1.86%	8.667	6.98%
025.52	Iron, ICP-MS, Open vessel (ppm)	2	2	228.9	19.74						
025.53	Iron, ICP-MS, Microwave (ppm)	1	1	278.0							
027.43	Magnesium, ICP, Microwave (%)	25	24	0.2224	0.0165	0.2216	0.0164	0.0042	7.42%	0.0044	5.02%
027.41	Magnesium, ICP, Dry ash (%)	23	23	0.2264	0.0124	0.2269	0.0119	0.0031	5.26%	0.0074	5.00%
027.42	Magnesium, ICP, Open vessel (%)	18	17	0.2221	0.0113	0.2215	0.0114	0.0035	5.17%	0.0035	5.02%
027.31	Magnesium, AAS, Dry ash (%)	12	12	0.2392	0.0437	0.2290	0.0102	0.0037	4.45%	0.0046	4.99%
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.2172	0.0073	0.2172	0.0073	0.0042	3.34%	0.0117	5.03%
027.99	Magnesium, Miscellaneous (%)	3	3	0.2250	0.0180	0.2250	0.0180	0.0127	8.01%	0.0033	5.01%
027.44	Magnesium, ICP, Dry ash (%)	2	2	0.2268	0.0025						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.2350							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.2370							
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.3950							
027.53	Magnesium, ICP-MS, Microwave (%)	1	1	0.2250							
028.43	Manganese, ICP, Microwave (ppm)	24	24	169.5	10.63	169.3	11.63	2.967	6.87%	8.362	7.39%
028.41	Manganese, ICP, Dry ash (ppm)	23	22	154.5	18.52	155.6	18.47	4.922	11.87%	6.400	7.48%
028.42	Manganese, ICP, Open vessel (ppm)	18	18	168.4	15.11	167.9	15.40	4.538	9.18%	6.616	7.40%
028.31	Manganese, AAS, Dry ash (ppm)	11	10	161.5	17.33	164.3	11.99	4.740	7.30%	3.099	7.42%
028.52	Manganese, ICP-MS, Open vessel (ppm)	3	3	168.1	24.96	168.1	24.96	14.41	14.85%	6.737	7.40%
028.99	Manganese, Miscellaneous (ppm)	3	3	175.5	9.644	175.5	9.644	5.568	5.49%	4.333	7.35%
028.44	Manganese, ICP, Dry ash (ppm)	2	2	168.5	2.121						
028.53	Manganese, ICP-MS, Microwave (ppm)	2	2	166.1	11.41						
028.33	Manganese, AAS, Microwave (ppm)	1	1	137.2							
031.01	Phosphorus, Photometric (%)	31	30	0.5171	0.1449	0.4830	0.0175	0.0040	3.63%	0.0123	4.46%
031.43	Phosphorus, ICP, Microwave (%)	28	28	0.4952	0.0256	0.4960	0.0263	0.0062	5.30%	0.0137	4.44%
031.41	Phosphorus, ICP, Dry ash (%)	27	26	0.4852	0.0356	0.4851	0.0344	0.0084	7.10%	0.0095	4.46%
031.42	Phosphorus, ICP, Open vessel (%)	18	18	0.5098	0.0526	0.4989	0.0211	0.0062	4.22%	0.0124	4.44%
031.99	Phosphorus, Miscellaneous (%)	5	5	0.5047	0.0364	0.5047	0.0364	0.0163	7.22%	0.0242	4.43%
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.4639	0.0337	0.4639	0.0337	0.0195	7.27%	0.0083	4.49%
031.44	Phosphorus, ICP, Dry ash (%)	2	2	0.4948	0.0286						
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.4483	0.0088						
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	1	1	0.4968							
031.06	Phosphorus, Hach Method (%)	1	1	0.5700							
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	1.195							
031.53	Phosphorus, ICP-MS, Microwave (%)	1	1	0.4850							
032.41	Potassium, ICP, Dry ash (%)	25	24	0.8231	0.0577	0.8227	0.0621	0.0158	7.55%	0.0274	4.12%
032.43	Potassium, ICP, Microwave (%)	25	24	0.8605	0.0386	0.8607	0.0373	0.0095	4.33%	0.0150	4.09%
032.42	Potassium, ICP, Open vessel (%)	17	17	0.8652	0.0571	0.8583	0.0439	0.0133	5.12%	0.0186	4.09%
032.31	Potassium, AAS, Dry ash (%)	9	9	0.7951	0.1027	0.8187	0.0474	0.0197	5.79%	0.0198	4.12%

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032.99	Potassium, Miscellaneous (%)	3	3	0.8507	0.0218	0.8507	0.0218	0.0126	2.57%	0.0273	4.10%
032.44	Potassium, ICP, Dry ash (%)	2	2	0.8800	0.0141						
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	0.8201	0.0390						
032.32	Potassium, AAS, Open vessel (%)	1	1	0.9050							
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	0.8750							
032.53	Potassium, ICP-MS, Microwave (%)	1	1	0.8450							
033.00	Salt as chloride, Sol Cl (%)	22	22	0.3710	0.0519	<b>0.3689</b>	0.0461	0.0123	12.50%	0.0191	4.65%
033.01	Salt as chloride, Poten Cl (%)	23	22	0.3911	0.0801	<b>0.3789</b>	0.0295	0.0079	7.79%	0.0115	4.63%
033.99	Salt, Miscellaneous (%)	12	12	0.3449	0.0806	<b>0.3504</b>	0.0702	0.0253	20.04%	0.0157	4.68%
033.03	Salt as chloride, Quantab (%)	5	5	0.2930	0.0217	0.2930	0.0217	0.0097	7.40%	0.0220	4.81%
033.05	Salt as chloride, Ion Sel Electrode (%)	1	1	0.3650							
034.53	Selenium, ICP-MS, Microwave (ppm)	7	7	0.5898	0.0763	<b>0.5898</b>	0.0865	0.0409	14.67%	0.0710	17.32%
034.04	Selenium, AA, Hydride (ppm)	4	4	0.4734	0.0483	0.4734	0.0483	0.0241	10.20%	0.0270	17.90%
034.41	Selenium, ICP, Dry ash (ppm)	3	3	0.7852	0.5269	0.7852	0.5269	0.3042	67.11%	0.0637	16.59%
034.43	Selenium, ICP, Microwave (ppm)	4	3	1.037	0.6906	1.037	0.6906	0.4883	66.63%	0.3053	15.91%
034.52	Selenium, ICP-MS, Open vessel (ppm)	3	3	0.5365	0.1145	0.5365	0.1145	0.0661	21.35%	0.0557	17.57%
034.01	Selenium, Fluor (ppm)	1	1	0.5862							
034.42	Selenium, ICP, Open vessel (ppm)	1	1	1.150							
034.99	Selenium, Miscellaneous (ppm)	2	1	3.835							
035.41	Sodium, ICP, Dry ash (%)	26	25	0.1697	0.0160	<b>0.1684</b>	0.0107	0.0027	6.38%	0.0072	5.23%
035.43	Sodium, ICP, Microwave (%)	23	22	0.1697	0.0170	<b>0.1671</b>	0.0116	0.0031	6.91%	0.0047	5.24%
035.31	Sodium, AAS, Dry ash (%)	15	14	0.2038	0.1347	<b>0.1708</b>	0.0245	0.0082	14.32%	0.0053	5.22%
035.42	Sodium, ICP, Open vessel (%)	15	14	0.1660	0.0108	<b>0.1653</b>	0.0105	0.0035	6.34%	0.0049	5.24%
035.99	Sodium, Miscellaneous (%)	3	3	0.6900	0.9093	0.6900	0.9093	0.6430	131.79%	0.0133	4.23%
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.1672	0.0118						
035.32	Sodium, AAS, Open vessel (%)	1	1	0.2050							
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.7250							
035.53	Sodium, ICP-MS, Microwave (%)	1	1	0.1550							
036.42	Sulfur, ICP, Open vessel (%)	19	19	0.3190	0.0248	<b>0.3195</b>	0.0255	0.0073	7.98%	0.0072	4.75%
036.43	Sulfur, ICP, Microwave (%)	16	16	0.3251	0.0329	<b>0.3269</b>	0.0276	0.0086	8.44%	0.0118	4.73%
036.04	Sulfur, LECO (%)	5	5	0.3068	0.0215	0.3068	0.0215	0.0096	7.02%	0.0076	4.78%
036.52	Sulfur, ICP-MS, Open vessel (%)	3	3	1,063	1,841	1,063	1,841	1,302	173.16%	45.34	0.31%
036.99	Sulfur, Miscellaneous (%)	2	2	0.3050	0.0212						
036.01	Sulfur, Analyzer (%)	1	1	0.3200							
037.43	Zinc, ICP, Microwave (ppm)	24	24	198.1	14.96	<b>197.5</b>	15.66	3.994	7.93%	5.780	7.22%
037.41	Zinc, ICP, Dry ash (ppm)	23	22	192.1	17.33	<b>191.2</b>	14.35	3.825	7.51%	6.948	7.26%
037.42	Zinc, ICP, Open vessel (ppm)	17	17	193.3	17.48	<b>193.9</b>	18.37	5.569	9.47%	5.186	7.24%
037.31	Zinc, AAS, Dry ash (ppm)	12	12	195.5	9.123	<b>195.5</b>	10.35	3.733	5.29%	3.399	7.23%
037.52	Zinc, ICP-MS, Open vessel (ppm)	3	3	197.1	2.597	197.1	2.597	1.499	1.32%	9.843	7.22%
037.99	Zinc, Miscellaneous (ppm)	3	3	205.2	10.75	205.2	10.75	6.207	5.24%	8.333	7.18%

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037.33	Zinc, AAS, Microwave (ppm)	2	2	194.3	1.055						
037.44	Zinc, ICP, Dry ash (ppm)	2	2	194.5	7.071						
037.53	Zinc, ICP-MS, Microwave (ppm)	1	1	190.5							
038.43	Molybdenum, ICP, Microwave (ppm)	8	8	2.663	1.169	<b>2.669</b>	1.313	0.5802	49.19%	0.0892	13.80%
038.42	Molybdenum, ICP, Open vessel (ppm)	4	4	3.852	0.5422	3.852	0.5422	0.2711	14.07%	0.1598	13.06%
038.41	Molybdenum, ICP, Dry ash (ppm)	3	3	2.841	0.3001	2.841	0.3001	0.1733	10.56%	0.0511	13.67%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	3	3	3.376	0.1551	3.376	0.1551	0.0895	4.59%	0.0994	13.32%
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	2	2	3.178	0.0813						
040.52	Barium, ICP-MS, Open vessel (ppm)	1	1	3.915							
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	3.677							
042.99	Chloride, Miscellaneous (%)	2	2	0.6050	0.5586						
042.00	Chloride, Titrimetric (%)	1	1	0.2490							
101.02	Choline Chloride, LC (ppm)	1	1	1,855							
102.01	Niacin, Microbiological (ppm)	1	1	80.30							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	25.00							
104.00	Riboflavin, Fluorometric (ppm)	2	2	19.85	0.2828						
104.03	Riboflavin, LC (ppm)	2	2	16.50	4.964						
105.00	Thiamine, LC (ppm)	2	2	7.310	0.2051						
105.01	Thiamine, Fluorometer (ppm)	1	1	9.000							
106.02	Vitamin A, LC (KU / kg)	19	18	20.94	7.385	<b>21.83</b>	5.899	1.738	27.02%	2.138	
106.00	Vitamin A, Color (KU / kg)	1	1	14.85							
106.01	Vitamin A, UV (KU / kg)	1	1	30.95							
107.00	Vitamin B12, Microbiological (ppb)	1	1	59.10							
108.02	Vitamin D3, LC (KU / kg)	8	8	16.01	2.768	<b>16.02</b>	3.106	1.373	19.38%	1.141	
108.99	Vitamin D3, Miscellaneous (KU / kg)	3	3	14.71	2.106	14.71	2.106	1.216	14.32%	0.6733	
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	4.000							
109.02	Vitamin E, LC (IU / kg)	16	15	161.7	61.43	<b>168.9</b>	52.72	17.01	31.21%	7.785	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	194.0							
110.00	Xanthophyll, Spectrophotometer (ppm)	2	2	12.97	4.982						
112.01	Pyridoxine, LC (µg / g)	1	1	9.185							
113.01	Folic Acid, Micro (ppm)	1	1	7.275							
114.01	Biotin, Microbiological (ppm)	1	1	0.6560							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.5050							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	1.800							
120.00	Alanine, Post-col Ninhydrin Der (%)	21	19	0.9606	0.0409	<b>0.9655</b>	0.0354	0.0102	3.67%	0.0112	4.02%
120.05	Alanine, Pre-col AQC Der (%)	8	8	0.9499	0.0777	<b>0.9499</b>	0.0881	0.0390	9.28%	0.0194	4.03%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.9685							
120.99	Alanine, Miscellaneous (%)	1	1	0.7750							
121.00	Arginine, Post-col Ninhydrin Der (%)	21	20	1.070	0.0549	<b>1.072</b>	0.0535	0.0150	4.99%	0.0117	3.96%
121.05	Arginine, Pre-col AQC Der (%)	8	8	1.189	0.3260	<b>1.091</b>	0.0756	0.0334	6.93%	0.0303	3.95%

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121.02	Arginine, Post-col OPA Der (%)	1	1	1.065							
121.99	Arginine, Miscellaneous (%)	1	1	0.4650							
122.00	Aspartic, Post-col Ninhydrin Der (%)	21	20	1.607	0.0658	1.604	0.0565	0.0158	3.52%	0.0144	3.73%
122.05	Aspartic, Pre-col AQC Der (%)	8	8	1.607	0.1030	1.607	0.1167	0.0516	7.26%	0.0243	3.72%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.637							
122.99	Aspartic, Miscellaneous (%)	1	1	1.515							
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	21	20	0.3066	0.0306	0.3031	0.0260	0.0073	8.58%	0.0098	4.79%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	7	7	0.3259	0.0244	0.3259	0.0277	0.0131	8.50%	0.0037	4.73%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.3130							
124.99	Cysteine/Cystine, Miscellaneous (%)	1	1	0.6325							
125.00	Glutamic, Post-col Ninhydrin Der (%)	21	20	3.209	0.1719	3.208	0.1378	0.0385	4.30%	0.0375	3.36%
125.05	Glutamic, Pre-col AQC Der (%)	8	8	3.205	0.1011	3.205	0.1146	0.0507	3.58%	0.0598	3.36%
125.02	Glutamic, Post-col OPA Der (%)	1	1	3.276							
125.99	Glutamic, Miscellaneous (%)	1	1	2.475							
126.00	Glycine, Post-col Ninhydrin Der (%)	21	20	0.7446	0.0297	0.7427	0.0281	0.0079	3.78%	0.0103	4.18%
126.05	Glycine, Pre-col AQC Der (%)	8	8	0.7076	0.1325	0.7445	0.0421	0.0186	5.66%	0.0190	4.18%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.7590							
126.99	Glycine, Miscellaneous (%)	1	1	1.038							
127.00	Histidine, Post-col Ninhydrin Der (%)	21	20	0.4739	0.0306	0.4714	0.0233	0.0065	4.95%	0.0107	4.48%
127.05	Histidine, Pre-col AQC Der (%)	8	8	0.4615	0.0288	0.4615	0.0327	0.0145	7.09%	0.0138	4.49%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.4620							
127.99	Histidine, Miscellaneous (%)	1	1	1.038							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	21	21	0.6707	0.0479	0.6745	0.0437	0.0119	6.47%	0.0183	4.24%
128.05	Isoleucine, Pre-col AQC Der (%)	8	8	0.7183	0.0384	0.7183	0.0435	0.0192	6.06%	0.0135	4.20%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.6995							
128.99	Isoleucine, Miscellaneous (%)	1	1	0.9175							
129.00	Leucine, Post-col Ninhydrin Der (%)	21	20	1.589	0.0539	1.588	0.0573	0.0160	3.61%	0.0210	3.73%
129.05	Leucine, Pre-col AQC Der (%)	8	8	1.619	0.0848	1.619	0.0961	0.0425	5.94%	0.0279	3.72%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.609							
129.99	Leucine, Miscellaneous (%)	1	1	0.4350							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	24	23	0.8945	0.0454	0.8909	0.0365	0.0095	4.10%	0.0118	4.07%
130.05	L-Lysine, Pre-col AQC Der (%)	9	9	0.9069	0.0744	0.9069	0.0844	0.0351	9.30%	0.0181	4.06%
130.99	L-Lysine, Miscellaneous (%)	3	3	0.8205	0.1161	0.8205	0.1161	0.0670	14.15%	0.0110	4.12%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.9440							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	24	23	0.3843	0.0257	0.3825	0.0200	0.0052	5.22%	0.0070	4.62%
131.05	Methionine, PAO Pre-col AQC Der (%)	10	10	0.3717	0.0595	0.3686	0.0601	0.0238	16.31%	0.0155	4.65%
131.99	Methionine, Miscellaneous (%)	2	2	0.6208	0.3136						
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.3685							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	21	20	0.8508	0.0298	0.8506	0.0279	0.0078	3.28%	0.0125	4.10%
132.05	Phenylalanine, Pre-col AQC Der (%)	8	8	0.8703	0.0328	0.8703	0.0372	0.0164	4.27%	0.0134	4.08%

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132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.8635							
132.99	Phenylalanine, Miscellaneous (%)	1	1	0.6600							
133.00	Proline, Post-col Ninhydrin Der (%)	21	20	1.165	0.1188	1.175	0.0561	0.0157	4.78%	0.0247	3.90%
133.05	Proline, Pre-col AQC Der (%)	8	8	1.201	0.0706	1.196	0.0665	0.0294	5.56%	0.0318	3.89%
133.99	Proline, Miscellaneous (%)	1	1	1.740							
134.00	Serine, Post-col Ninhydrin Der (%)	21	21	0.8739	0.0514	0.8693	0.0475	0.0130	5.47%	0.0177	4.08%
134.05	Serine, Pre-col AQC Der (%)	8	8	0.8654	0.0687	0.8633	0.0729	0.0322	8.44%	0.0156	4.09%
134.02	Serine, Post-col OPA Der (%)	1	1	0.8370							
134.99	Serine, Miscellaneous (%)	1	1	1.145							
135.00	Threonine, Post-col Ninhydrin Der (%)	21	20	0.6818	0.0266	0.6815	0.0296	0.0083	4.34%	0.0105	4.24%
135.05	Threonine, Pre-col AQC Der (%)	8	8	0.6609	0.0679	0.6679	0.0598	0.0264	8.95%	0.0093	4.25%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.6915							
135.99	Threonine, Miscellaneous (%)	1	1	0.8800							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	7	0.1969	0.0299	0.1994	0.0279	0.0132	13.99%	0.0121	5.10%
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	4	0.2098	0.0079	0.2098	0.0079	0.0039	3.75%	0.0020	5.06%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.1905	0.0249	0.1905	0.0249	0.0144	13.07%	0.0030	5.13%
136.05	Tryptophan, Pre-col AQC Der (%)	2	2	0.1545	0.0573						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2030							
136.99	Tryptophan, Miscellaneous (%)	1	1	0.0700							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	15	15	0.6162	0.0488	0.6207	0.0351	0.0113	5.66%	0.0155	4.30%
137.05	Tyrosine, Pre-col AQC Der (%)	8	8	0.7298	0.2260	0.6701	0.0838	0.0370	12.51%	0.0200	4.25%
137.01	Tyrosine, Pre-col OPA Der (%)	1	1	0.5350							
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.6060							
137.99	Tyrosine, Miscellaneous (%)	1	1	0.0700							
138.00	Valine, Post-col Ninhydrin Der (%)	21	21	0.7893	0.0658	0.7967	0.0555	0.0151	6.96%	0.0222	4.14%
138.05	Valine, Pre-col AQC Der (%)	8	8	0.8562	0.0447	0.8561	0.0506	0.0223	5.91%	0.0119	4.09%
138.02	Valine, Post-col OPA Der (%)	1	1	0.8505							
138.99	Valine, Miscellaneous (%)	1	1	0.3400							
139.00	Taurine, Post-col Ninhydrin Der (%)	2	1	0.0820							
139.05	Taurine, Pre-col AQC Der (%)	2	1	0.0001							
139.99	Taurine, Miscellaneous (%)	1	1	0.0100							
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
160.10	Fructose, HPAEC PAD (%)	1	1	0.0905							
160.99	Fructose, Miscellaneous (%)	2	1	0.0905							
161.10	Galactose, HPAEC PAD (%)	1		0.0000							
162.99	Glucose, Miscellaneous (%)	2	2	0.2218	0.0520						
162.10	Glucose, HPAEC PAD (%)	1	1	0.2565							
163.10	Lactose, HPAEC PAD (%)	1		0.0000							
163.99	Lactose, Miscellaneous (%)	2		0.0000							
164.10	Maltose, HPAEC PAD (%)	1	1	0.2040							



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164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.99	Sucrose, Miscellaneous (%)	2	2	1.655	0.1344						
165.10	Sucrose, HPAEC PAD (%)	1	1	1.937							
166.99	Raffinose, Miscellaneous (%)	2	2	0.2828	0.0032						
166.10	Raffinose, HPAEC PAD (%)	1	1	0.3395							
167.99	Stachyose, Miscellaneous (%)	2	2	0.9225	0.0177						
167.10	Stachyose, HPAEC PAD (%)	1	1	0.9565							
345.02	Amprolium, LC (UV or FL) (ppm)	6	6	56.97	2.776	56.97	3.148	1.606	5.52%	1.904	8.71%
345.00	Amprolium, Colorimetric (ppm)	6	5	69.19	13.67	69.19	13.67	7.644	19.76%	1.186	8.45%
345.04	Amprolium, LC-MS/MS (ppm)	3	3	77.02	37.58	77.02	37.58	21.70	48.79%	7.543	8.32%
379.05	Salinomycin, LC-MS/MS (ppm)	1	1	0.4300							
391.03	Narasin, LC-MS/MS (ppm)	7	7	120.8	18.02	120.8	20.43	9.654	16.91%	5.005	7.77%
391.00	Narasin, LC-PCD (ppm)	4	4	128.0	5.385	128.0	5.385	2.693	4.21%	5.616	7.71%
391.01	Narasin, LC (ppm)	2	2	132.8	12.98						
391.99	Narasin, Miscellaneous (ppm)	2	2	133.9	2.263						
400.01	Water Activity, Aqualab chilled mirror (Units)	8	8	0.5823	0.0227	0.5789	0.0170	0.0075	2.94%	0.0089	
400.99	Water Activity, Miscellaneous (Units)	3	3	0.5800	0.0220	0.5800	0.0220	0.0156	3.79%	0.0007	
516.53	Arsenic, Total, ICP-MS, Microwave (ppm)	3	3	0.1508	0.0243	0.1508	0.0243	0.0140	16.10%	0.0241	21.27%
516.52	Arsenic, Total, ICP-MS, Open vessel (ppm)	2	2	0.1185	0.0092						
516.00	Arsenic, Total, AA, Hydride (ppm)	1	1	0.0990							
516.43	Arsenic, Total, ICP, Microwave (ppm)	2	1	1.772							
518.53	Cadmium, ICP-MS, Microwave (ppm)	3	3	0.0626	0.0067	0.0626	0.0067	0.0047	10.69%	0.0006	22.00%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.0584	0.0055						
518.43	Cadmium, ICP, Microwave (ppm)	3	2	0.0668	0.0088	0.0668	0.0088			0.0049	22.00%
518.52	Cadmium, ICP-MS, Open vessel (ppm)	2	2	0.0678	0.0032						
518.42	Cadmium, ICP, Open vessel (ppm)	1	1	0.2065							
518.31	Cadmium, AAS, Dry ash (ppm)	1		0.2000							
520.43	Chromium, ICP, Microwave (ppm)	4	4	2.192	1.194	2.192	1.194	0.5970	54.46%	0.0431	14.21%
520.53	Chromium, ICP-MS, Microwave (ppm)	4	4	2.816	1.122	2.816	1.122	0.5611	39.86%	0.0837	13.69%
520.41	Chromium, ICP, Dry ash (ppm)	2	2	1.224	0.1840						
520.42	Chromium, ICP, Open vessel (ppm)	2	2	2.897	0.3224						
520.52	Chromium, ICP-MS, Open vessel (ppm)	1	1	1.124							
526.53	Lead, ICP-MS, Microwave (ppm)	4	3	0.2468	0.0105	0.2468	0.0105	0.0060	4.24%	0.0056	19.75%
526.41	Lead, ICP, Dry ash (ppm)	2	2	0.1626	0.0588						
526.31	Lead, AAS, Dry ash (ppm)	1	1	2.195							
526.43	Lead, ICP, Microwave (ppm)	2	1	0.3317							
526.52	Lead, ICP-MS, Open vessel (ppm)	1	1	0.2250							
529.99	Mercury, Miscellaneous (ppb)	2		10.00							
539.41	Nickel, ICP, Dry ash (ppm)	2	2	1.710	0.0513						
539.43	Nickel, ICP, Microwave (ppm)	2	2	2.340	1.357						

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)	2	2	2.777	0.4484						
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	1.759							
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0000							
704.00	Caproic Acid (6:0) , Miscellaneous GC (%)	1		0.0000							
706.01	Caprylic acid (8:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
708.01	Capric acid (10:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3	1								
710.01	Lauric Acid (12:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
714.01	Myristic Acid (14:0 ), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
714.99	Myristic Acid (14:0 ), Miscellaneous (% (w/w))	2		0.0050							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.5833	0.0237						
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.5455							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	2	0.0053	0.0004	0.0053	0.0004			0.0005	8.81%
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.0000							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	2	0.0988	0.0018						
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0815							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	1.063	0.0110						
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	1.115							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	1.908	0.0420	1.908	0.0420	0.0242	2.20%	0.0317	3.63%
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	2.430							
726.02	Linoleic Acid (9c,12c-18:2), Direct Methylation by Acid-Alkali Hydrolysis & GC (%)	1	1	1.895							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	3	3	0.3612	0.0138	0.3612	0.0138	0.0080	3.83%	0.0070	4.66%
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis	1	1	0.3345							
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0290							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	1	0.0150							
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0300							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	1	0.0125							
736.01	Arachidonic Acid (5c,8c,11c,14c-20:4), Direct Methylation by Alkali Hydrolysis	1		0.0000							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1		0.0000							
738.01	Mead Acid (11c,14c,17c-20:3), Direct Methylation by Alkali Hydrolysis & GC (%)	1		0.0000							
740.01	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Direct Methylation by Al	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	1	0.0090							
744.01	Erucic Acid (13c-22:1), Direct Methylation by 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	1		0.0000							
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))	1	1	0.0105							
750.01	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Direct Methylation	1		0.0000							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (%)	2		0.0000							

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
752.01	Nervonic Acid (24:1) isomers, Direct Methylation by Alkali Hydrolysis & GC (%)	1		0.0000							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (%) (w/w)	1		0.0000							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (%) (w/w)	3	3	0.3800	0.0200	0.3800	0.0200			0.0000	4.63%
754.02	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Direct Methylation by Acid-f	1	1	0.3700							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (%) (w/w)	2	2	1.910	0.0636						
756.01	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Direct Methylation by Alkali	1	1	1.895							
758.99	Total Saturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	0.7600							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	1.130							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	2.230							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (%) (w/w)	1	1	4.325							
772.99	Total Fatty Acids, Miscellaneous (%) (w/w)	2	2	4.088	0.0743						

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 Layer, Medicated**  
**Test Material Code # 202021**

**Method Precision Report**

**# Methods Reported: 100**  
**# Labs Reporting: 170**  
**Issue Date : 02/29/2020**

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
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	44	39	9.336	0.3671	0.2541	0.1140	0.2785	2.72%	1.22%	2.98%	2.442
001.99	Loss on Drying, Miscellaneous (%)	17	15	8.970	0.6230	0.4565	0.0902	0.4653	5.04%	1.00%	5.14%	5.156
002.01	Protein, Crude, Auto Kjell-Foss (%)	14	13	18.13	0.3368	0.2306	0.1225	0.2611	1.28%	0.68%	1.45%	2.131
002.05	Protein, Crude, Copper, Boric Acid (%)	23	19	17.86	1.407	0.2941	0.0683	0.3020	1.64%	0.38%	1.68%	4.421
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	113	107	18.31	0.3115	0.2251	0.1436	0.2670	1.23%	0.79%	1.46%	1.859
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	11	10	3.897	0.1658	0.0955	0.0569	0.1112	2.48%	1.48%	2.88%	1.953
003.06	Fat, Crude, Pet Ether (%)	14	13	3.819	0.1479	0.1444	0.0455	0.1514	3.78%	1.19%	3.96%	3.325
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	13	12	3.888	0.1452	0.1495	0.0361	0.1538	3.85%	0.93%	3.96%	4.262
003.10	Fat, Crude, Randall, Pet Ether (%)	25	23	3.786	0.2614	0.1656	0.0537	0.1741	4.42%	1.43%	4.65%	3.241
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	8	3.766	0.1385	0.1331	0.0537	0.1436	3.54%	1.43%	3.81%	2.674
003.14	Fat, Crude, Ankom (%)	46	45	3.685	0.2133	0.1701	0.1248	0.2110	4.60%	3.37%	5.70%	1.690
004.00	Fiber, Crude, Asbestos Free (%)	13	13	3.550	0.5427	0.5346	0.1318	0.5506	15.06%	3.71%	15.51%	4.179
004.06	Fiber, Crude, Fibertec (%)	17	15	3.310	0.2332	0.1538	0.0824	0.1745	4.71%	2.52%	5.34%	2.117
004.07	Fiber, Crude, ANKOM (%)	62	57	3.611	0.7454	0.6438	0.1980	0.6736	18.22%	5.60%	19.06%	3.402
005.00	Ash, 2h @ 600°C (%)	90	81	12.54	0.9659	0.7145	0.1421	0.7285	5.62%	1.12%	5.73%	5.126
005.05	Ash, 3h @ 550°C (%)	27	26	13.29	0.4005	0.2984	0.0835	0.3099	2.24%	0.63%	2.32%	3.713
008.02	Fiber, Acid Detergent, Crucible (%)	10	10	4.656	0.4684	0.4419	0.2196	0.4935	9.49%	4.72%	10.60%	2.247
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	41	38	4.668	0.5584	0.5369	0.1838	0.5675	11.44%	3.91%	12.09%	3.088
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	11	11.98	1.213	1.252	0.3244	1.293	10.44%	2.71%	10.79%	3.987
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	41	37	11.56	0.8951	0.7086	0.2574	0.7539	6.20%	2.25%	6.59%	2.929
010.99	Moisture, Miscellaneous (%)	14	13	9.650	0.6093	0.4458	0.1056	0.4581	4.67%	1.11%	4.80%	4.337
011.01	Loss on Drying, 135°C 2hr (%)	60	55	10.06	0.8317	0.4496	0.0570	0.4532	4.52%	0.57%	4.56%	7.949
012.00	Starch, Polarimetric (Ewers) (%)	14	11	33.83	1.125	0.7648	0.1594	0.7813	2.25%	0.47%	2.30%	4.902
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	9	9	30.97	1.968	1.901	0.7237	2.034	6.14%	2.34%	6.57%	2.810
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	16	4.560	0.5281	0.4040	0.1627	0.4356	8.71%	3.50%	9.38%	2.678
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	18	18	5.053	0.4198	0.4088	0.1346	0.4304	8.09%	2.66%	8.52%	3.197
019.00	Calcium, Ox-Mn04 Vol. (%)	9	8	4.043	0.3352	0.1802	0.0752	0.1953	4.36%	1.82%	4.72%	2.598
019.08	Calcium, EDTA (%)	8	8	4.175	0.1841	0.1817	0.0419	0.1865	4.35%	1.00%	4.47%	4.448

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
019.31	Calcium, AAS, Dry ash (%)	15	12	3.968	0.5568	0.1981	0.0605	0.2072	4.82%	1.47%	5.04%	3.423
019.41	Calcium, ICP, Dry ash (%)	30	27	4.093	0.3031	0.2018	0.1143	0.2319	4.93%	2.79%	5.66%	2.029
019.42	Calcium, ICP, Open vessel (%)	16	15	4.211	0.2159	0.2114	0.1023	0.2349	5.02%	2.43%	5.58%	2.296
019.43	Calcium, ICP, Microwave (%)	28	26	4.160	0.2173	0.1851	0.0705	0.1981	4.47%	1.70%	4.79%	2.810
021.43	Cobalt, ICP, Microwave (ppm)	8	8	1.314	0.2793	0.2640	0.1289	0.2938	20.08%	9.81%	22.35%	2.279
022.31	Copper, AAS, Dry ash (ppm)	12	9	26.87	2.468	1.591	0.7623	1.764	5.86%	2.81%	6.49%	2.315
022.41	Copper, ICP, Dry ash (ppm)	23	22	27.11	1.991	1.875	1.109	2.178	6.91%	4.08%	8.02%	1.965
022.42	Copper, ICP, Open vessel (ppm)	18	15	28.11	2.664	2.735	0.8103	2.853	9.79%	2.90%	10.21%	3.521
022.43	Copper, ICP, Microwave (ppm)	25	25	27.80	2.550	2.372	1.322	2.716	8.53%	4.76%	9.77%	2.054
025.31	Iron, AAS, Dry ash (ppm)	13	13	291.2	35.90	35.47	7.821	36.32	12.18%	2.69%	12.47%	4.644
025.41	Iron, ICP, Dry ash (ppm)	24	23	274.7	27.06	21.95	10.64	24.39	7.90%	3.83%	8.78%	2.293
025.42	Iron, ICP, Open vessel (ppm)	15	14	250.0	44.97	32.32	6.895	33.05	12.51%	2.67%	12.79%	4.793
025.43	Iron, ICP, Microwave (ppm)	23	23	282.9	26.03	25.37	8.229	26.67	8.97%	2.91%	9.43%	3.241
027.31	Magnesium, AAS, Dry ash (%)	12	11	0.2392	0.0437	0.0091	0.0040	0.0099	3.99%	1.77%	4.36%	2.471
027.41	Magnesium, ICP, Dry ash (%)	23	23	0.2264	0.0124	0.0114	0.0071	0.0134	5.02%	3.14%	5.93%	1.886
027.42	Magnesium, ICP, Open vessel (%)	18	17	0.2221	0.0113	0.0110	0.0036	0.0116	4.97%	1.62%	5.23%	3.222
027.43	Magnesium, ICP, Microwave (%)	25	24	0.2224	0.0165	0.0162	0.0045	0.0168	7.30%	2.00%	7.57%	3.779
028.31	Manganese, AAS, Dry ash (ppm)	11	9	161.5	17.33	8.709	3.167	9.267	5.24%	1.90%	5.57%	2.926
028.41	Manganese, ICP, Dry ash (ppm)	23	21	154.5	18.52	18.50	5.348	19.26	11.94%	3.45%	12.43%	3.601
028.42	Manganese, ICP, Open vessel (ppm)	18	18	168.4	15.11	14.49	6.064	15.71	8.60%	3.60%	9.33%	2.590
028.43	Manganese, ICP, Microwave (ppm)	24	24	169.5	10.63	8.627	8.774	12.30	5.09%	5.18%	7.26%	1.402
031.01	Phosphorus, Photometric (%)	31	27	0.5171	0.1449	0.0193	0.0101	0.0218	4.03%	2.10%	4.54%	2.162
031.41	Phosphorus, ICP, Dry ash (%)	27	25	0.4852	0.0356	0.0353	0.0080	0.0362	7.26%	1.65%	7.45%	4.500
031.42	Phosphorus, ICP, Open vessel (%)	18	17	0.5098	0.0526	0.0222	0.0100	0.0244	4.46%	2.01%	4.89%	2.437
031.43	Phosphorus, ICP, Microwave (%)	28	26	0.4952	0.0256	0.0208	0.0105	0.0233	4.19%	2.12%	4.69%	2.218
032.41	Potassium, ICP, Dry ash (%)	25	23	0.8231	0.0577	0.0566	0.0237	0.0614	6.87%	2.88%	7.45%	2.585
032.42	Potassium, ICP, Open vessel (%)	17	16	0.8652	0.0571	0.0337	0.0176	0.0381	3.95%	2.06%	4.46%	2.161
032.43	Potassium, ICP, Microwave (%)	25	24	0.8605	0.0386	0.0373	0.0139	0.0398	4.34%	1.61%	4.63%	2.867
033.00	Salt as chloride, Sol Cl (%)	22	22	0.3710	0.0519	0.0503	0.0179	0.0534	13.57%	4.82%	14.39%	2.989
033.01	Salt as chloride, Poten Cl (%)	23	21	0.3911	0.0801	0.0290	0.0098	0.0306	7.72%	2.62%	8.15%	3.112
033.99	Salt, Miscellaneous (%)	12	10	0.3449	0.0806	0.0585	0.0097	0.0593	15.94%	2.65%	16.16%	6.103
035.31	Sodium, AAS, Dry ash (%)	15	12	0.2038	0.1347	0.0238	0.0038	0.0241	14.30%	2.27%	14.48%	6.363
035.41	Sodium, ICP, Dry ash (%)	26	24	0.1697	0.0160	0.0097	0.0068	0.0119	5.82%	4.07%	7.10%	1.744
035.42	Sodium, ICP, Open vessel (%)	15	13	0.1660	0.0108	0.0077	0.0047	0.0090	4.69%	2.87%	5.50%	1.916
035.43	Sodium, ICP, Microwave (%)	23	20	0.1697	0.0170	0.0107	0.0040	0.0114	6.41%	2.42%	6.85%	2.835
036.42	Sulfur, ICP, Open vessel (%)	19	19	0.3190	0.0248	0.0244	0.0067	0.0253	7.64%	2.10%	7.92%	3.766
036.43	Sulfur, ICP, Microwave (%)	16	15	0.3251	0.0329	0.0234	0.0115	0.0261	7.08%	3.48%	7.89%	2.266
037.31	Zinc, AAS, Dry ash (ppm)	12	12	195.5	9.123	8.842	3.175	9.395	4.52%	1.62%	4.81%	2.959

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
037.41	Zinc, ICP, Dry ash (ppm)	23	21	192.1	17.33	12.26	6.903	14.07	6.47%	3.64%	7.42%	2.038
037.42	Zinc, ICP, Open vessel (ppm)	17	17	193.3	17.48	17.16	4.682	17.79	8.88%	2.42%	9.20%	3.800
037.43	Zinc, ICP, Microwave (ppm)	24	23	198.1	14.96	14.91	4.654	15.62	7.52%	2.35%	7.88%	3.355
038.43	Molybdenum, ICP, Microwave (ppm)	8	8	2.663	1.169	1.167	0.0787	1.170	43.83%	2.95%	43.93%	14.87
106.02	Vitamin A, LC (KU / kg)	19	17	20.94	7.385	7.288	1.922	7.537	35.48%	9.36%	36.69%	3.922
109.02	Vitamin E, LC (IU / kg)	16	14	161.7	61.43	62.51	6.169	62.81	39.38%	3.89%	39.57%	10.18
120.00	Alanine, Post-col Ninhydrin Der (%)	21	18	0.9606	0.0409	0.0378	0.0085	0.0387	3.92%	0.88%	4.01%	4.575
121.00	Arginine, Post-col Ninhydrin Der (%)	21	18	1.070	0.0549	0.0439	0.0100	0.0450	4.08%	0.93%	4.19%	4.510
122.00	Aspartic, Post-col Ninhydrin Der (%)	21	20	1.607	0.0658	0.0651	0.0139	0.0666	4.05%	0.87%	4.14%	4.774
122.05	Aspartic, Pre-col AQC Der (%)	8	8	1.607	0.1030	0.1019	0.0206	0.1040	6.34%	1.28%	6.47%	5.037
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	21	18	0.3066	0.0306	0.0188	0.0083	0.0206	6.30%	2.79%	6.89%	2.466
125.00	Glutamic, Post-col Ninhydrin Der (%)	21	18	3.209	0.1719	0.1095	0.0299	0.1135	3.41%	0.93%	3.54%	3.789
126.00	Glycine, Post-col Ninhydrin Der (%)	21	19	0.7446	0.0297	0.0264	0.0076	0.0275	3.57%	1.03%	3.71%	3.602
127.00	Histidine, Post-col Ninhydrin Der (%)	21	19	0.4739	0.0306	0.0213	0.0089	0.0231	4.55%	1.90%	4.93%	2.595
127.05	Histidine, Pre-col AQC Der (%)	8	8	0.4615	0.0288	0.0272	0.0137	0.0304	5.89%	2.96%	6.59%	2.224
128.00	Isoleucine, Post-col Ninhydrin Der (%)	21	20	0.6707	0.0479	0.0386	0.0195	0.0432	5.70%	2.88%	6.39%	2.216
128.05	Isoleucine, Pre-col AQC Der (%)	8	8	0.7183	0.0384	0.0375	0.0115	0.0392	5.22%	1.60%	5.46%	3.403
129.00	Leucine, Post-col Ninhydrin Der (%)	21	19	1.589	0.0539	0.0492	0.0163	0.0518	3.09%	1.02%	3.25%	3.178
129.05	Leucine, Pre-col AQC Der (%)	8	8	1.619	0.0848	0.0827	0.0265	0.0868	5.11%	1.63%	5.36%	3.281
130.00	L-Lysine, Post-col Ninhydrin Der (%)	24	21	0.8945	0.0454	0.0309	0.0097	0.0324	3.49%	1.09%	3.66%	3.352
130.05	L-Lysine, Pre-col AQC Der (%)	9	9	0.9069	0.0744	0.0736	0.0157	0.0752	8.11%	1.73%	8.29%	4.788
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	24	21	0.3843	0.0257	0.0220	0.0060	0.0228	5.75%	1.58%	5.97%	3.778
131.05	Methionine, PAO Pre-col AQC Der (%)	10	10	0.3717	0.0595	0.0586	0.0144	0.0603	15.76%	3.86%	16.23%	4.199
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	21	20	0.8508	0.0298	0.0287	0.0115	0.0309	3.37%	1.35%	3.63%	2.689
132.05	Phenylalanine, Pre-col AQC Der (%)	8	8	0.8703	0.0328	0.0317	0.0121	0.0339	3.64%	1.39%	3.90%	2.793
133.00	Proline, Post-col Ninhydrin Der (%)	21	19	1.165	0.1188	0.0623	0.0235	0.0666	5.25%	1.98%	5.61%	2.834
133.05	Proline, Pre-col AQC Der (%)	8	8	1.201	0.0706	0.0677	0.0283	0.0733	5.63%	2.35%	6.10%	2.595
134.00	Serine, Post-col Ninhydrin Der (%)	21	21	0.8739	0.0514	0.0498	0.0180	0.0530	5.70%	2.06%	6.06%	2.943
134.05	Serine, Pre-col AQC Der (%)	8	8	0.8654	0.0687	0.0679	0.0145	0.0694	7.84%	1.68%	8.02%	4.775
135.00	Threonine, Post-col Ninhydrin Der (%)	21	19	0.6818	0.0266	0.0262	0.0089	0.0276	3.84%	1.31%	4.06%	3.107
135.05	Threonine, Pre-col AQC Der (%)	8	8	0.6609	0.0679	0.0677	0.0084	0.0682	10.24%	1.27%	10.32%	8.114
137.00	Tyrosine, Post-col Ninhydrin Der (%)	15	14	0.6162	0.0488	0.0498	0.0130	0.0515	8.09%	2.11%	8.36%	3.971
138.00	Valine, Post-col Ninhydrin Der (%)	21	20	0.7893	0.0658	0.0533	0.0195	0.0567	6.68%	2.45%	7.11%	2.905
138.05	Valine, Pre-col AQC Der (%)	8	8	0.8562	0.0447	0.0441	0.0101	0.0453	5.16%	1.18%	5.29%	4.477

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