



Animal Feed Scheme
Swine Feed, Residue
Test Material Code # 201932

Method Summary Report
(Precision Report Follows)

Labs Reporting: 183
Methods Reported: 404
Issue Date : 01/31/2020

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	0.3500							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	47	46	9.674	0.2783	9.658	0.2586	0.0477	2.68%	0.0881	2.84%
001.99	Loss on Drying, Miscellaneous (%)	22	20	9.501	0.6540	9.540	0.5326	0.1489	5.58%	0.0892	2.85%
001.03	Loss on Drying, Low temp. methods (%)	7	6	9.751	0.2553	9.721	0.2174	0.1109	2.24%	0.0329	2.84%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	4	8.617	1.380	8.617	1.380	0.7967	16.02%	0.0355	2.89%
001.05	Loss on Drying, LECO (%)	2	2	9.777	0.5335						
001.08	Loss on Drying, 102°C 16 hr, in meat (%)	1	1	10.19							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	121	120	15.79	0.3174	15.79	0.2581	0.0295	1.64%	0.1602	2.52%
002.05	Protein, Crude, Copper, Boric Acid (%)	34	33	15.58	0.1518	15.59	0.1476	0.0321	0.95%	0.1114	2.53%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	13	12	15.61	0.1869	15.61	0.2119	0.0765	1.36%	0.1194	2.53%
002.11	Protein, Crude, NIR (%)	6	6	17.25	1.770	16.98	1.347	0.6874	7.93%	0.1508	2.43%
002.04	Protein, Crude, Copper Catalyst (%)	3	3	15.53	0.1033	15.53	0.1033	0.0597	0.67%	0.2067	2.54%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	2	2	15.57	0.1549						
002.08	Protein, Crude, Cu/Ti (%)	2	2	15.90	0.4074						
002.00	Protein, Crude, Crude (%)	1	1	15.61							
003.14	Fat, Crude, Ankom (%)	51	50	2.236	0.4140	2.180	0.2913	0.0515	13.36%	0.1190	3.56%
003.10	Fat, Crude, Randall, Pet Ether (%)	27	27	2.565	0.3024	2.566	0.3132	0.0754	12.20%	0.1013	3.47%
003.06	Fat, Crude, Pet Ether (%)	17	16	2.839	0.2012	2.820	0.1731	0.0541	6.14%	0.0631	3.42%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	14	14	2.769	0.2270	2.770	0.2547	0.0851	9.19%	0.0893	3.43%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	13	12	2.805	0.4441	2.847	0.3958	0.1428	13.91%	0.0957	3.42%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	7	7	2.663	0.1939	2.663	0.2199	0.1039	8.26%	0.1131	3.45%
003.11	Fat, Crude, NIR (%)	6	6	3.169	0.3900	3.169	0.4422	0.2257	13.95%	0.0217	3.36%
003.12	Fat, Crude, Hexane Ext (%)	5	4	2.463	0.4345	2.463	0.4345	0.2173	17.64%	0.0450	3.49%
003.99	Fat, Crude, Miscellaneous (%)	4	4	2.839	1.487	2.839	1.487	0.7437	52.40%	0.2575	3.42%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	3	3	3.080	1.116	3.080	1.116	0.6444	36.24%	0.0867	3.38%
004.07	Fiber, Crude, ANKOM (%)	69	68	3.288	0.6575	3.228	0.4670	0.0708	14.47%	0.1532	3.35%
004.06	Fiber, Crude, Fibertec (%)	20	20	3.156	0.5659	3.151	0.3812	0.1065	12.10%	0.0845	3.37%
004.00	Fiber, Crude, Asbestos Free (%)	14	13	3.178	0.2288	3.165	0.1843	0.0639	5.83%	0.1596	3.36%
004.03	Fiber, Crude, Fritted Glass (%)	4	4	3.140	0.3534	3.140	0.3534	0.1767	11.25%	0.2850	3.37%

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004.11	Fiber, Crude, NIR (%)	4	4	3.479	0.4894	3.479	0.4894	0.2447	14.07%	0.0625	3.32%
004.99	Fiber, Crude, Miscellaneous (%)	4	4	3.024	0.3563	3.024	0.3563	0.1782	11.78%	0.1825	3.39%
004.01	Fiber, Crude, Sing Filt (%)	2	2	2.605	0.6435						
005.00	Ash, 2h @ 600°C (%)	92	90	11.35	0.8597	11.37	0.5595	0.0737	4.92%	0.1666	2.77%
005.05	Ash, 3h @ 550°C (%)	33	31	11.75	0.4456	11.83	0.2916	0.0655	2.46%	0.1160	2.76%
005.99	Ash, Miscellaneous (%)	8	8	11.37	0.9697	11.56	0.5583	0.2467	4.83%	0.2151	2.77%
005.02	Ash, LECO (%)	2	2	11.88	0.2726						
005.11	Ash, NIR (%)	2	2	10.51	1.989						
006.00	Total Sugars, As sucrose (%)	3	3	2.953	2.318	2.953	2.318	1.338	78.50%	0.4327	3.40%
006.99	Total Sugars, Miscellaneous (%)	3	3	4.354	0.3589	4.354	0.3589	0.2072	8.24%	0.4531	3.21%
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	39	37	4.338	0.4552	4.316	0.4474	0.0919	10.37%	0.1572	3.21%
008.02	Fiber, Acid Detergent, Crucible (%)	13	13	4.192	0.4147	4.191	0.4703	0.1630	11.22%	0.2062	3.22%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	2	2	4.378	0.3217						
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	4.830							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	39	38	11.70	0.8249	11.60	0.6089	0.1235	5.25%	0.2637	2.77%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	12	12.05	0.9975	12.10	1.021	0.3685	8.44%	0.2344	2.75%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	11.31							
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	1	1	10.51							
010.99	Moisture, Miscellaneous (%)	15	14	9.925	0.5681	9.836	0.4060	0.1356	4.13%	0.1087	2.84%
010.03	Moisture, Karl-Fischer (%)	2	2	9.405	0.1202						
010.11	Moisture, NIR (%)	2	2	9.799	0.1856						
011.01	Loss on Drying, 135°C 2hr (%)	64	63	10.49	0.4400	10.49	0.4666	0.0735	4.45%	0.1531	2.81%
011.02	Loss on Drying, 130°C for 2 hours (%)	1	1	10.35							
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	1	1	9.900							
012.00	Starch, Polarimetric (Ewers) (%)	15	15	39.08	2.169	39.55	1.087	0.3507	2.75%	0.3707	1.59%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	12	37.47	2.002	37.48	2.167	0.7818	5.78%	0.9250	1.63%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	6	5	32.16	14.82	32.16	14.82	1.202	46.08%	0.2321	1.76%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	4	4	37.16	1.755	37.16	1.755	0.8776	4.72%	0.5725	1.64%
012.11	Starch, NIR (%)	3	3	42.47	4.030	42.47	4.030	2.327	9.49%	0.3300	1.53%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	17	3.359	0.7647	3.352	0.8525	0.2585	25.44%	0.1513	3.33%
013.02	Fat, Acid Pretreat, Mojonniier, Bak Ext (%)	15	15	4.080	0.6327	4.152	0.5107	0.1648	12.30%	0.1877	3.23%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	8	8	3.464	0.4406	3.459	0.4899	0.2165	14.16%	0.1818	3.32%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	5	4	3.318	0.0287	3.318	0.0287	0.0144	0.87%	0.0200	3.34%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	2.104							
015.43	Aluminum, ICP, Microwave (ppm)	8	7	151.1	14.25	151.1	16.16	7.635	10.69%	4.088	7.52%
015.41	Aluminum, ICP, Dry ash (ppm)	5	5	140.7	11.58	140.7	11.58	5.180	8.23%	7.978	7.60%
015.53	Aluminum, ICP-MS, Microwave (ppm)	2	2	184.8	18.74						
015.42	Aluminum, ICP, Open vessel (ppm)	1	1	101.8							
017.42	Boron, ICP, Open vessel (ppm)	6	6	8.126	1.236	8.077	1.287	0.6565	15.93%	0.2642	11.68%
017.41	Boron, ICP, Dry ash (ppm)	5	5	7.245	1.408	7.245	1.408	0.6297	19.43%	0.3162	11.87%

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017.43	Boron, ICP, Microwave (ppm)	7	5	8.419	0.6257	8.419	0.6257	0.3498	7.43%	0.0936	11.61%
017.44	Boron, ICP, Dry ash (ppm)	1	1	8.982							
017.52	Boron, ICP-MS, Open vessel (ppm)	1	1	7.780							
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	9.640							
019.41	Calcium, ICP, Dry ash (%)	29	28	3.051	0.1982	3.032	0.1599	0.0378	5.27%	0.0681	3.38%
019.43	Calcium, ICP, Microwave (%)	25	24	3.033	0.1326	3.028	0.1396	0.0356	4.61%	0.0621	3.39%
019.31	Calcium, AAS, Dry ash (%)	20	19	3.057	0.1220	3.060	0.1252	0.0359	4.09%	0.0485	3.38%
019.42	Calcium, ICP, Open vessel (%)	18	18	3.066	0.2261	3.085	0.1881	0.0554	6.10%	0.1051	3.38%
019.00	Calcium, Ox-Mn04 Vol. (%)	12	11	3.134	0.3438	3.053	0.1249	0.0471	4.09%	0.0360	3.38%
019.08	Calcium, EDTA (%)	10	10	3.089	0.1088	3.080	0.1024	0.0405	3.32%	0.0395	3.38%
019.99	Calcium, Miscellaneous (%)	5	5	3.009	0.1151	3.009	0.1151	0.0515	3.82%	0.0900	3.39%
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	3.068	0.3085	3.068	0.3085	0.1781	10.06%	0.0615	3.38%
019.53	Calcium, ICP-MS, Microwave (%)	3	3	2.925	0.0529	2.925	0.0529	0.0306	1.81%	0.0967	3.40%
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	3.134							
019.32	Calcium, AAS, Open vessel (%)	1	1	3.015							
019.33	Calcium, AAS, Microwave (%)	1	1	3.290							
019.34	Calcium, AAS, Dry ash (%)	1	1	3.075							
019.44	Calcium, ICP, Dry ash (%)	1	1	2.890							
021.43	Cobalt, ICP, Microwave (ppm)	6	4	1.151	0.2527	1.151	0.2527	0.1579	21.95%	0.0468	15.66%
021.31	Cobalt, AAS, Dry ash (ppm)	3	3	1.010	0.2921	1.010	0.2921	0.1686	28.92%	0.0467	15.97%
021.52	Cobalt, ICP-MS, Open vessel (ppm)	3	3	0.9178	0.1024	0.9178	0.1024	0.0591	11.15%	0.0770	16.20%
021.53	Cobalt, ICP-MS, Microwave (ppm)	3	3	1.079	0.1358	1.079	0.1358	0.0784	12.59%	0.0485	15.81%
021.41	Cobalt, ICP, Dry ash (ppm)	2	2	0.9418	0.4388						
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	0.7323	0.6049						
022.41	Copper, ICP, Dry ash (ppm)	21	21	67.93	4.045	67.85	3.956	1.079	5.83%	3.438	8.48%
022.43	Copper, ICP, Microwave (ppm)	21	20	67.21	16.13	69.37	4.563	1.275	6.58%	2.450	8.45%
022.42	Copper, ICP, Open vessel (ppm)	19	19	68.63	8.667	69.64	6.623	1.899	9.51%	2.950	8.45%
022.31	Copper, AAS, Dry ash (ppm)	15	14	69.73	7.160	69.27	4.211	1.407	6.08%	0.7815	8.45%
022.53	Copper, ICP-MS, Microwave (ppm)	4	4	66.52	4.048	66.52	4.048	2.024	6.09%	3.010	8.51%
022.99	Copper, Miscellaneous (ppm)	4	4	66.98	6.971	66.98	6.971	3.486	10.41%	2.418	8.50%
022.52	Copper, ICP-MS, Open vessel (ppm)	3	3	70.44	1.983	70.44	1.983	1.145	2.81%	3.443	8.43%
022.33	Copper, AAS, Microwave (ppm)	2	2	73.18	11.84						
022.44	Copper, ICP, Dry ash (ppm)	2	2	70.59	1.994						
022.32	Copper, AAS, Open vessel (ppm)	1	1	73.98							
025.41	Iron, ICP, Dry ash (ppm)	24	23	896.4	86.44	901.9	85.41	22.26	9.47%	20.34	5.74%
025.43	Iron, ICP, Microwave (ppm)	21	21	919.2	65.91	919.1	70.94	19.35	7.72%	18.70	5.73%
025.31	Iron, AAS, Dry ash (ppm)	19	19	949.1	157.4	954.6	116.3	33.35	12.18%	18.63	5.70%
025.42	Iron, ICP, Open vessel (ppm)	15	14	804.7	223.8	842.2	147.6	49.31	17.53%	31.64	5.80%
025.99	Iron, Miscellaneous (ppm)	4	3	944.8	47.57	944.8	47.57	27.46	5.03%	8.037	5.70%
025.52	Iron, ICP-MS, Open vessel (ppm)	2	2	621.0	233.9						

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025.53	Iron, ICP-MS, Microwave (ppm)	2	2	953.8	22.98						
025.34	Iron, AAS, Dry ash (ppm)	1	1	921.0							
027.41	Magnesium, ICP, Dry ash (%)	23	23	0.2125	0.0132	0.2134	0.0127	0.0033	5.94%	0.0061	5.05%
027.43	Magnesium, ICP, Microwave (%)	23	22	0.2099	0.0115	0.2092	0.0115	0.0031	5.48%	0.0057	5.06%
027.42	Magnesium, ICP, Open vessel (%)	20	20	0.2050	0.0212	0.2071	0.0156	0.0044	7.55%	0.0087	5.07%
027.31	Magnesium, AAS, Dry ash (%)	17	17	0.2137	0.0164	0.2114	0.0113	0.0034	5.36%	0.0032	5.05%
027.52	Magnesium, ICP-MS, Open vessel (%)	4	4	0.2147	0.0148	0.2147	0.0148	0.0074	6.89%	0.0088	5.04%
027.53	Magnesium, ICP-MS, Microwave (%)	4	4	0.2126	0.0121	0.2126	0.0121	0.0061	5.70%	0.0068	5.05%
027.99	Magnesium, Miscellaneous (%)	4	4	0.2100	0.0082	0.2100	0.0082			0.0000	5.06%
027.33	Magnesium, AAS, Microwave (%)	3	3	0.2209	0.0122	0.2209	0.0122	0.0087	5.54%	0.0028	5.02%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.2150							
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.2140							
028.43	Manganese, ICP, Microwave (ppm)	22	22	160.7	9.823	160.6	10.78	2.874	6.72%	5.221	7.45%
028.41	Manganese, ICP, Dry ash (ppm)	21	21	152.6	14.48	152.4	15.58	4.249	10.22%	6.579	7.51%
028.42	Manganese, ICP, Open vessel (ppm)	19	19	158.5	25.39	162.2	14.62	4.194	9.02%	3.842	7.44%
028.31	Manganese, AAS, Dry ash (ppm)	16	15	157.0	13.54	159.6	8.716	2.813	5.46%	1.649	7.46%
028.99	Manganese, Miscellaneous (ppm)	4	4	159.0	19.47	159.0	19.47	9.736	12.25%	2.650	7.46%
028.52	Manganese, ICP-MS, Open vessel (ppm)	3	3	162.5	16.93	162.5	16.93	9.776	10.42%	11.17	7.44%
028.44	Manganese, ICP, Dry ash (ppm)	2	2	152.6	14.71						
028.53	Manganese, ICP-MS, Microwave (ppm)	2	2	161.3	6.718						
028.32	Manganese, AAS, Open vessel (ppm)	1	1	166.5							
028.33	Manganese, AAS, Microwave (ppm)	1	1	159.8							
031.01	Phosphorus, Photometric (%)	41	39	0.9136	0.0445	0.9211	0.0252	0.0050	2.74%	0.0166	4.05%
031.41	Phosphorus, ICP, Dry ash (%)	25	25	0.9385	0.0646	0.9418	0.0576	0.0144	6.12%	0.0235	4.04%
031.43	Phosphorus, ICP, Microwave (%)	25	24	0.9428	0.0433	0.9428	0.0491	0.0125	5.20%	0.0156	4.04%
031.42	Phosphorus, ICP, Open vessel (%)	18	18	0.8845	0.0651	0.8852	0.0664	0.0195	7.50%	0.0248	4.07%
031.99	Phosphorus, Miscellaneous (%)	4	4	0.9088	0.0197	0.9088	0.0197	0.0099	2.17%	0.0355	4.06%
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.9271	0.0114	0.9271	0.0114	0.0066	1.22%	0.0155	4.05%
031.44	Phosphorus, ICP, Dry ash (%)	3	3	0.9458	0.0267	0.9458	0.0267	0.0154	2.83%	0.0230	4.03%
031.52	Phosphorus, ICP-MS, Open vessel (%)	3	3	0.8406	0.0406	0.8406	0.0406	0.0235	4.83%	0.0375	4.11%
031.53	Phosphorus, ICP-MS, Microwave (%)	3	3	0.9748	0.0359	0.9748	0.0359	0.0207	3.68%	0.0443	4.02%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	2	2	0.9038	0.0619						
031.00	Phosphorus, Vol (%)	1	1	0.9600							
031.06	Phosphorus, Hach Method (%)	1	1	0.9600							
032.43	Potassium, ICP, Microwave (%)	24	24	0.7967	0.0462	0.7968	0.0473	0.0121	5.93%	0.0164	4.14%
032.41	Potassium, ICP, Dry ash (%)	24	23	0.7877	0.0412	0.7866	0.0428	0.0112	5.44%	0.0210	4.15%
032.42	Potassium, ICP, Open vessel (%)	18	18	0.8084	0.0534	0.8060	0.0554	0.0163	6.87%	0.0244	4.13%
032.31	Potassium, AAS, Dry ash (%)	13	12	0.8141	0.0940	0.7997	0.0649	0.0234	8.11%	0.0152	4.14%
032.99	Potassium, Miscellaneous (%)	4	4	0.7574	0.0610	0.7574	0.0610	0.0305	8.06%	0.0183	4.17%
032.52	Potassium, ICP-MS, Open vessel (%)	3	3	0.7444	0.0909	0.7444	0.0909	0.0525	12.21%	0.0173	4.18%

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032.53	Potassium, ICP-MS, Microwave (%)	3	3	0.7967	0.0419	0.7967	0.0419	0.0242	5.26%	0.0227	4.14%
032.02	Potassium, Flame Emission (%)	1	1	0.8200							
032.32	Potassium, AAS, Open vessel (%)	1	1	0.8250							
032.44	Potassium, ICP, Dry ash (%)	1	1	0.7680							
033.01	Salt as chloride, Poten Cl (%)	28	27	1.532	0.0498	1.528	0.0268	0.0064	1.75%	0.0252	3.75%
033.00	Salt as chloride, Sol Cl (%)	25	25	1.497	0.0785	1.500	0.0636	0.0159	4.24%	0.0386	3.76%
033.99	Salt, Miscellaneous (%)	11	11	1.398	0.1757	1.431	0.0605	0.0228	4.23%	0.0324	3.79%
033.03	Salt as chloride, Quantab (%)	5	5	1.484	0.0691	1.484	0.0691	0.0309	4.66%	0.0480	3.77%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	1.647	0.2023	1.647	0.2023	0.1168	12.29%	0.0267	3.71%
034.53	Selenium, ICP-MS, Microwave (ppm)	8	8	1.469	0.1563	1.483	0.1420	0.0628	9.58%	0.0628	15.08%
034.04	Selenium, AA, Hydride (ppm)	4	4	1.423	0.1318	1.423	0.1318	0.0659	9.26%	0.1388	15.17%
034.43	Selenium, ICP, Microwave (ppm)	5	4	1.078	0.5835	1.078	0.5835	0.3369	54.15%	0.0203	15.82%
034.41	Selenium, ICP, Dry ash (ppm)	3	3	1.885	0.6361	1.885	0.6361	0.4498	33.74%	0.0433	14.54%
034.52	Selenium, ICP-MS, Open vessel (ppm)	3	3	1.418	0.2192	1.418	0.2192	0.1266	15.46%	0.0700	15.18%
034.01	Selenium, Fluor (ppm)	1	1	1.495							
034.99	Selenium, Miscellaneous (ppm)	1	1	2.855							
035.41	Sodium, ICP, Dry ash (%)	24	23	0.5527	0.0336	0.5520	0.0366	0.0095	6.63%	0.0151	4.37%
035.43	Sodium, ICP, Microwave (%)	21	21	0.5635	0.0256	0.5662	0.0207	0.0056	3.65%	0.0112	4.36%
035.31	Sodium, AAS, Dry ash (%)	17	16	0.5465	0.0481	0.5464	0.0408	0.0127	7.46%	0.0133	4.38%
035.42	Sodium, ICP, Open vessel (%)	15	14	0.5576	0.0336	0.5576	0.0379	0.0127	6.80%	0.0134	4.37%
035.53	Sodium, ICP-MS, Microwave (%)	4	4	0.5495	0.0111	0.5495	0.0111	0.0055	2.01%	0.0225	4.38%
035.99	Sodium, Miscellaneous (%)	4	4	0.5575	0.0357	0.5575	0.0357	0.0179	6.41%	0.0085	4.37%
035.52	Sodium, ICP-MS, Open vessel (%)	3	3	0.5689	0.0382	0.5689	0.0382	0.0221	6.72%	0.0120	4.35%
035.05	Sodium, Flame Emission (%)	2	2	0.6050	0.0990						
035.32	Sodium, AAS, Open vessel (%)	2	2	0.5661	0.0550						
035.01	Sodium, Ion-selective electrode (%)	1	1	0.5825							
035.02	Sodium, Em Spect (%)	1	1	0.4900							
036.42	Sulfur, ICP, Open vessel (%)	19	19	0.2914	0.0238	0.2914	0.0269	0.0077	9.25%	0.0080	4.82%
036.43	Sulfur, ICP, Microwave (%)	14	13	0.3090	0.0278	0.3085	0.0306	0.0106	9.92%	0.0076	4.77%
036.04	Sulfur, LECO (%)	3	3	0.2967	0.0104	0.2967	0.0104	0.0060	3.51%	0.0200	4.80%
036.52	Sulfur, ICP-MS, Open vessel (%)	3	3	0.2960	0.0225	0.2960	0.0225	0.0130	7.61%	0.0231	4.80%
036.01	Sulfur, Analyzer (%)	1	1	0.2850							
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.2950							
036.99	Sulfur, Miscellaneous (%)	1	1	0.2750							
037.43	Zinc, ICP, Microwave (ppm)	23	23	582.4	44.96	584.2	46.95	12.24	8.04%	21.13	6.13%
037.41	Zinc, ICP, Dry ash (ppm)	21	21	569.2	44.26	565.3	38.92	10.62	6.89%	22.97	6.16%
037.42	Zinc, ICP, Open vessel (ppm)	18	18	552.9	146.8	577.8	56.43	16.62	9.77%	16.65	6.14%
037.31	Zinc, AAS, Dry ash (ppm)	18	17	530.8	144.5	560.9	33.59	10.18	5.99%	9.243	6.17%
037.99	Zinc, Miscellaneous (ppm)	5	5	567.4	46.20	567.4	46.20	20.66	8.14%	30.59	6.16%
037.53	Zinc, ICP-MS, Microwave (ppm)	4	4	626.8	16.72	626.8	16.72	8.358	2.67%	32.78	6.07%

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037.52	Zinc, ICP-MS, Open vessel (ppm)	3	3	552.4	90.83	552.4	90.83	52.44	16.44%	25.57	6.18%
037.33	Zinc, AAS, Microwave (ppm)	2	2	584.6	20.69						
037.44	Zinc, ICP, Dry ash (ppm)	2	2	581.8	0.2793						
037.32	Zinc, AAS, Open vessel (ppm)	1	1	574.0							
038.43	Molybdenum, ICP, Microwave (ppm)	7	7	1.343	0.2607	1.337	0.2834	0.1339	21.19%	0.0896	15.31%
038.42	Molybdenum, ICP, Open vessel (ppm)	4	4	1.852	0.5354	1.852	0.5354	0.2677	28.92%	0.2400	14.58%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	4	4	1.331	0.1112	1.331	0.1112	0.0556	8.35%	0.0382	15.32%
038.41	Molybdenum, ICP, Dry ash (ppm)	3	3	1.204	0.1852	1.204	0.1852	0.1069	15.38%	0.0563	15.56%
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	2	2	1.168	0.1237						
040.52	Barium, ICP-MS, Open vessel (ppm)	1	1	8.515							
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	7.879							
042.00	Chloride, Titrimetric (%)	1	1	0.9355							
042.01	Chloride, Ion-selective electrode (%)	1	1	0.9590							
042.99	Chloride, Miscellaneous (%)	1	1	0.9300							
101.01	Choline Chloride, Chem (ppm)	1	1	1,909							
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	1,639							
102.02	Niacin, LC (ppm)	2	2	64.71	71.83						
103.02	Pantothenic Acid, LC (ppm)	2	2	66.88	4.349						
104.03	Riboflavin, LC (ppm)	4	3	20.62	5.574	20.62	5.574	3.218	27.04%	0.9867	10.14%
104.00	Riboflavin, Fluorometric (ppm)	1	1	17.85							
105.00	Thiamine, LC (ppm)	1	1	3.015							
106.02	Vitamin A, LC (KU / kg)	12	12	9.820	6.761	8.845	4.903	1.769	55.43%	1.619	
106.00	Vitamin A, Color (KU / kg)	1	1	24.15							
106.01	Vitamin A, UV (KU / kg)	1	1	9.390							
108.02	Vitamin D3, LC (KU / kg)	3	2	1.520	0.9687	1.520	0.9687			0.0400	
108.99	Vitamin D3, Miscellaneous (KU / kg)	2	2	1.575	0.8697						
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	1.300							
109.02	Vitamin E, LC (IU / kg)	9	9	81.30	29.04	88.29	12.23	5.097	13.86%	4.687	
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.5200							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	6.320							
120.00	Alanine, Post-col Ninhydrin Der (%)	21	20	0.7929	0.0413	0.7947	0.0190	0.0053	2.40%	0.0144	4.14%
120.05	Alanine, Pre-col AQC Der (%)	6	5	0.7742	0.0431	0.7742	0.0431	0.0274	5.57%	0.0124	4.16%
120.99	Alanine, Miscellaneous (%)	2	2	0.7613	0.0548						
120.02	Alanine, Post-col OPA Der (%)	1	1	0.8020							
121.00	Arginine, Post-col Ninhydrin Der (%)	21	20	1.008	0.0342	1.004	0.0259	0.0072	2.58%	0.0181	4.00%
121.05	Arginine, Pre-col AQC Der (%)	6	6	0.9801	0.0748	0.9797	0.0839	0.0428	8.56%	0.0842	4.01%
121.02	Arginine, Post-col OPA Der (%)	1	1	1.000							
121.99	Arginine, Miscellaneous (%)	1	1	0.8750							
122.00	Aspartic, Post-col Ninhydrin Der (%)	21	20	1.387	0.0786	1.391	0.0637	0.0178	4.58%	0.0223	3.81%
122.05	Aspartic, Pre-col AQC Der (%)	6	6	1.413	0.1312	1.390	0.0907	0.0463	6.53%	0.0245	3.81%

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122.02	Aspartic, Post-col OPA Der (%)	1	1	1.420							
122.99	Aspartic, Miscellaneous (%)	1	1	1.348							
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	21	20	0.2651	0.0383	0.2636	0.0216	0.0060	8.18%	0.0054	4.89%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	5	4	0.2739	0.0326	0.2739	0.0326	0.0188	11.90%	0.0068	4.86%
124.99	Cysteine/Cystine, Miscellaneous (%)	2	2	0.2938	0.0407						
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.2650							
125.00	Glutamic, Post-col Ninhydrin Der (%)	21	20	2.721	0.1414	2.716	0.1179	0.0330	4.34%	0.0478	3.44%
125.05	Glutamic, Pre-col AQC Der (%)	6	5	2.777	0.1851	2.777	0.1851	0.1034	6.66%	0.0230	3.43%
125.99	Glutamic, Miscellaneous (%)	2	2	2.668	0.0177						
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.746							
126.00	Glycine, Post-col Ninhydrin Der (%)	21	20	0.7433	0.0420	0.7410	0.0254	0.0071	3.43%	0.0096	4.18%
126.05	Glycine, Pre-col AQC Der (%)	6	5	0.7260	0.0059	0.7260	0.0059	0.0020	0.81%	0.0088	4.20%
126.99	Glycine, Miscellaneous (%)	2	2	0.5500	0.3041						
126.02	Glycine, Post-col OPA Der (%)	1	1	0.7545							
127.00	Histidine, Post-col Ninhydrin Der (%)	21	20	0.3991	0.0261	0.3959	0.0205	0.0057	5.17%	0.0117	4.60%
127.05	Histidine, Pre-col AQC Der (%)	6	5	0.3860	0.0420	0.3860	0.0420	0.0048	10.89%	0.0056	4.62%
127.99	Histidine, Miscellaneous (%)	2	2	0.3800	0.0636						
127.02	Histidine, Post-col OPA Der (%)	1	1	0.3895							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	21	20	0.5658	0.0391	0.5659	0.0353	0.0099	6.24%	0.0156	4.36%
128.05	Isoleucine, Pre-col AQC Der (%)	6	5	0.5923	0.0331	0.5923	0.0331	0.0185	5.59%	0.0138	4.33%
128.99	Isoleucine, Miscellaneous (%)	2	2	0.5875	0.0035						
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.5785							
129.00	Leucine, Post-col Ninhydrin Der (%)	21	20	1.206	0.0532	1.203	0.0469	0.0131	3.90%	0.0200	3.89%
129.05	Leucine, Pre-col AQC Der (%)	6	5	1.182	0.0276	1.182	0.0276	0.0154	2.33%	0.0072	3.90%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.218							
129.99	Leucine, Miscellaneous (%)	1	1	0.9675							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	21	20	0.7388	0.0267	0.7388	0.0274	0.0077	3.71%	0.0177	4.19%
130.05	L-Lysine, Pre-col AQC Der (%)	6	5	0.7376	0.0463	0.7376	0.0463	0.0298	6.28%	0.0128	4.19%
130.99	L-Lysine, Miscellaneous (%)	3	3	0.8700	0.1979	0.8700	0.1979	0.1143	22.75%	0.0067	4.08%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.7855							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	21	20	0.2394	0.0233	0.2390	0.0214	0.0060	8.96%	0.0073	4.96%
131.05	Methionine, PAO Pre-col AQC Der (%)	6	6	0.2313	0.0219	0.2313	0.0248	0.0126	10.71%	0.0084	4.99%
131.99	Methionine, Miscellaneous (%)	2	2	0.2850	0.0990						
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2325							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	21	20	0.7088	0.0471	0.7112	0.0473	0.0132	6.65%	0.0151	4.21%
132.05	Phenylalanine, Pre-col AQC Der (%)	6	5	0.6903	0.0109	0.6903	0.0109	0.0061	1.57%	0.0054	4.23%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.7050							
132.99	Phenylalanine, Miscellaneous (%)	1	1	0.6925							
133.00	Proline, Post-col Ninhydrin Der (%)	21	20	0.9299	0.1037	0.9321	0.0552	0.0154	5.92%	0.0351	4.04%
133.05	Proline, Pre-col AQC Der (%)	6	5	0.9572	0.0407	0.9572	0.0407	0.0228	4.25%	0.0116	4.03%

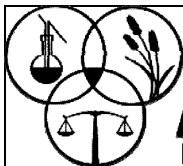
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133.99	Proline, Miscellaneous (%)	1	1	0.9725							
134.00	Serine, Post-col Ninhydrin Der (%)	21	20	0.7158	0.0519	0.7129	0.0364	0.0102	5.10%	0.0193	4.21%
134.05	Serine, Pre-col AQC Der (%)	6	5	0.7066	0.0362	0.7066	0.0362	0.0202	5.12%	0.0060	4.21%
134.02	Serine, Post-col OPA Der (%)	1	1	0.6620							
134.99	Serine, Miscellaneous (%)	1	1	0.5875							
135.00	Threonine, Post-col Ninhydrin Der (%)	21	20	0.5572	0.0345	0.5515	0.0215	0.0060	3.90%	0.0174	4.37%
135.05	Threonine, Pre-col AQC Der (%)	6	5	0.5578	0.0339	0.5578	0.0339	0.0190	6.08%	0.0096	4.37%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.5625							
135.99	Threonine, Miscellaneous (%)	1	1	0.4100							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	6	6	0.1699	0.0341	0.1712	0.0355	0.0181	20.74%	0.0072	5.22%
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	4	0.1848	0.0030	0.1848	0.0030	0.0015	1.61%	0.0025	5.16%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.1892	0.0070	0.1892	0.0070	0.0040	3.71%	0.0037	5.14%
136.99	Tryptophan, Miscellaneous (%)	2	2	0.2550	0.0919						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.1800							
136.05	Tryptophan, Pre-col AQC Der (%)	1	1	0.0600							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	15	14	0.4764	0.0666	0.4843	0.0574	0.0192	11.86%	0.0105	4.46%
137.05	Tyrosine, Pre-col AQC Der (%)	6	5	0.4733	0.0727	0.4733	0.0727	0.0406	15.35%	0.0154	4.48%
137.99	Tyrosine, Miscellaneous (%)	2	2	0.4400	0.1697						
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.4895							
138.00	Valine, Post-col Ninhydrin Der (%)	21	20	0.6869	0.0601	0.6942	0.0503	0.0140	7.24%	0.0164	4.23%
138.05	Valine, Pre-col AQC Der (%)	6	5	0.6954	0.0411	0.6954	0.0411	0.0230	5.91%	0.0128	4.22%
138.02	Valine, Post-col OPA Der (%)	1	1	0.7260							
138.99	Valine, Miscellaneous (%)	1	1	0.6400							
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.1515	0.0757						
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.3900							
139.02	Taurine, Post-col OPA Der (%)	1	1	0.0100							
150.00	Phytase, Colorimetric (Units / kg)	3	3	1,787	1,419	1,787	1,419	819.1	79.40%	122.0	
150.99	Phytase, Miscellaneous (Units / kg)	1	1	2,004							
160.99	Fructose, Miscellaneous (%)	2	2	0.1817	0.0604						
160.10	Fructose, HPAEC PAD (%)	1	1	0.1570							
161.10	Galactose, HPAEC PAD (%)	1	1	0.0000							
162.99	Glucose, Miscellaneous (%)	2	2	0.2746	0.2207						
162.10	Glucose, HPAEC PAD (%)	1	1	0.2130							
163.10	Lactose, HPAEC PAD (%)	1	1	0.1005							
163.99	Lactose, Miscellaneous (%)	2	1	0.2005							
164.10	Maltose, HPAEC PAD (%)	1	1	0.2805							
164.99	Maltose, Miscellaneous (%)	1	1	1.693							
165.99	Sucrose, Miscellaneous (%)	2	2	2.035	0.1064						
165.10	Sucrose, HPAEC PAD (%)	1	1	2.027							
166.10	Raffinose, HPAEC PAD (%)	1	1	0.4340							

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166.99	Raffinose, Miscellaneous (%)	1	1	0.3680							
167.10	Stachyose, HPAEC PAD (%)	1	1	0.8930							
167.99	Stachyose, Miscellaneous (%)	1	1	0.7850							
350.03	Carbadox, LC-MS/MS (ppm)	1	1	0.5890							
351.05	Chlortetracycline, LC-MS/MS (ppm)	3	3	2.263	0.3840	2.263	0.3840	0.2217	16.97%	0.1157	14.15%
351.00	Chlortetracycline, Plate (ppm)	1	1	1.884							
351.03	Chlortetracycline, LC (UV or FL) (ppm)	2	1	2.182							
373.06	Oxytetracycline, LC-MS/MS (ppm)	3	3	0.8610	0.2200	0.8610	0.2200	0.1556	25.55%	0.0491	16.36%
373.99	Oxytetracycline, Miscellaneous (ppm)	1	1	63.90							
373.03	Oxytetracycline, LC (ppm)	1		2.000							
381.02	Sulfadimethoxine, LC-MS/MS (ppm)	1	1	0.2050							
382.04	Sulfamethazine, LC-MS/MS (ppm)	1	1	0.4525							
386.00	Tiamulin, LC (ppm)	1	1	1.000							
386.02	Tiamulin, LC-MS/MS (ppm)	1	1	0.2030							
386.99	Tiamulin, Miscellaneous (ppm)	1		0.3000							
388.03	Tylosin, LC (ppm)	1		0.2000							
393.00	Ractopamine Hydrochloride, LC (UV or FL) (ppm)	1		1.000							
393.02	Ractopamine Hydrochloride, LC-MS/MS (ppm)	3									
400.01	Water Activity, Aqualab chilled mirror (Units)	8	8	0.5517	0.0379	0.5517	0.0430	0.0190	7.79%	0.0044	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.5378	0.0569						
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	36.63							
516.53	Arsenic, Total, ICP-MS, Microwave (ppm)	4	3	0.2740	0.0017	0.2740	0.0017	0.0012	0.63%	0.0180	19.44%
516.00	Arsenic, Total, AA, Hydride (ppm)	2	2	0.2358	0.0322						
516.52	Arsenic, Total, ICP-MS, Open vessel (ppm)	2	2	0.2678	0.0032						
516.43	Arsenic, Total, ICP, Microwave (ppm)	2	1	1.572							
518.43	Cadmium, ICP, Microwave (ppm)	3	3	0.1900	0.0540	0.1900	0.0540	0.0312	28.42%	0.0092	20.54%
518.53	Cadmium, ICP-MS, Microwave (ppm)	4	3	0.1633	0.0057	0.1633	0.0057	0.0033	3.50%	0.0052	21.01%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.1567	0.0095						
518.52	Cadmium, ICP-MS, Open vessel (ppm)	2	2	0.1600	0.0141						
518.34	Cadmium, AAS, Graphite furnace (ppm)	1	1	0.1644							
518.31	Cadmium, AAS, Dry ash (ppm)	1		20.00							
520.43	Chromium, ICP, Microwave (ppm)	4	4	4.020	1.191	4.020	1.191	0.5957	29.64%	0.1758	12.97%
520.53	Chromium, ICP-MS, Microwave (ppm)	4	4	3.826	1.057	3.826	1.057	0.5286	27.63%	0.3350	13.07%
520.41	Chromium, ICP, Dry ash (ppm)	2	2	2.732	0.2947						
520.42	Chromium, ICP, Open vessel (ppm)	2	2	4.410	0.6930						
520.52	Chromium, ICP-MS, Open vessel (ppm)	1	1	2.415							
526.53	Lead, ICP-MS, Microwave (ppm)	4	4	0.2233	0.0033	0.2233	0.0033	0.0016	1.47%	0.0038	20.05%
526.41	Lead, ICP, Dry ash (ppm)	2	2	0.1724	0.0650						
526.34	Lead, AAS, Graphite furnace (ppm)	1	1	0.1588							
526.43	Lead, ICP, Microwave (ppm)	2	1	0.4090							

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
526.52	Lead, ICP-MS, Open vessel (ppm)	1	1	0.2600							
526.31	Lead, AAS, Dry ash (ppm)	1		20.00							
529.99	Mercury, Miscellaneous (ppb)	3	1								
539.53	Nickel, ICP-MS, Microwave (ppm)	3	3	2.763	0.1980	2.763	0.1980	0.1143	7.17%	0.1418	13.73%
539.41	Nickel, ICP, Dry ash (ppm)	2	2	1.898	0.0080						
539.43	Nickel, ICP, Microwave (ppm)	2	2	2.596	0.5426						
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	2.280							
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0000							
704.00	Caproic Acid (6:0) , Miscellaneous GC (%)	1	1	0.0025							
706.99	Caprylic acid (8:0), Miscellaneous (% (w/w))	1	1	0.0650							
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							
714.99	Myristic Acid (14:0) , Miscellaneous (% (w/w))	3	2	0.1090	0.1428	0.1090	0.1428			0.0200	
714.01	Myristic Acid (14:0) , Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0235							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	3	3	5.769	8.999	5.769	8.999	6.363	156.00%	0.0413	
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.5345							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	3	0.1137	0.1744	0.1137	0.1744	0.1233	153.42%	0.0240	
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0275							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	3	3	1.046	1.631	1.046	1.631	1.154	155.91%	0.0733	
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0690							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	3	3	9.311	14.82	9.311	14.82	10.48	159.14%	0.1263	
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.6630							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	17.10	27.18	17.10	27.18	19.22	158.91%	0.1110	
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	2.410							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	2	2	0.0665	0.0092						
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis	1	1	0.0590							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	3	2	0.1728	0.2295	0.1728	0.2295			0.0255	
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0225							
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.0260							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.0115							
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))	3	2	0.0640	0.0792	0.0640	0.0792			0.0410	
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							

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
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)	2	2	0.0893	0.1142						
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							
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)	1	1	0.0600							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (%) (w/w)	1	1	1.320							
758.99	Total Saturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	0.7900							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	0.8450							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	1.595							
770.01	Total Fat (equivalent to NLEA), Direct Methylation by Alkali Hydrolysis & GC (%)	1	1	4.995							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (%) (w/w)	1	1	3.400							
772.99	Total Fatty Acids, Miscellaneous (%) (w/w)	2	2	3.135	0.1626						

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

Swine Feed, Residue

Test Material Code # 201932

Method Precision Report

Methods Reported: 89

Labs Reporting: 183

Issue Date : 01/31/2020

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
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	47	44	9.674	0.2783	0.2278	0.0855	0.2433	2.36%	0.89%	2.52%	2.845
001.99	Loss on Drying, Miscellaneous (%)	22	19	9.501	0.6540	0.5317	0.0832	0.5381	5.54%	0.87%	5.61%	6.468
002.01	Protein, Crude, Auto Kjel-Foss (%)	13	12	15.61	0.1869	0.1692	0.1121	0.2030	1.08%	0.72%	1.30%	1.811
002.05	Protein, Crude, Copper, Boric Acid (%)	34	32	15.58	0.1518	0.1136	0.1051	0.1547	0.73%	0.67%	0.99%	1.473
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	121	117	15.79	0.3174	0.2474	0.1435	0.2860	1.57%	0.91%	1.81%	1.993
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	13	11	2.805	0.4441	0.3031	0.0860	0.3151	10.45%	2.97%	10.86%	3.662
003.06	Fat, Crude, Pet Ether (%)	17	15	2.839	0.2012	0.1357	0.0531	0.1457	4.84%	1.90%	5.20%	2.743
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	14	14	2.769	0.2270	0.2202	0.0778	0.2335	7.95%	2.81%	8.43%	3.002
003.10	Fat, Crude, Randall, Pet Ether (%)	27	25	2.565	0.3024	0.2794	0.0833	0.2915	10.98%	3.27%	11.46%	3.501
003.14	Fat, Crude, Ankom (%)	51	47	2.236	0.4140	0.3365	0.0974	0.3503	15.25%	4.41%	15.87%	3.596
004.00	Fiber, Crude, Asbestos Free (%)	14	12	3.178	0.2288	0.1910	0.0969	0.2142	6.08%	3.08%	6.81%	2.210
004.06	Fiber, Crude, Fibertec (%)	20	17	3.156	0.5659	0.3406	0.0780	0.3494	10.80%	2.47%	11.08%	4.480
004.07	Fiber, Crude, ANKOM (%)	69	65	3.288	0.6575	0.4797	0.1375	0.4990	14.70%	4.21%	15.29%	3.630
005.00	Ash, 2h @ 600°C (%)	92	84	11.35	0.8597	0.5769	0.1406	0.5938	5.08%	1.24%	5.23%	4.222
005.05	Ash, 3h @ 550°C (%)	33	28	11.75	0.4456	0.3247	0.1006	0.3399	2.74%	0.85%	2.87%	3.378
008.02	Fiber, Acid Detergent, Crucible (%)	13	12	4.192	0.4147	0.3622	0.1396	0.3881	8.76%	3.38%	9.39%	2.780
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	39	34	4.338	0.4552	0.3797	0.1298	0.4013	8.85%	3.03%	9.35%	3.091
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	12	12	12.05	0.9975	0.9854	0.2193	1.009	8.18%	1.82%	8.38%	4.603
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	39	34	11.70	0.8249	0.5922	0.2049	0.6266	5.11%	1.77%	5.41%	3.059
010.99	Moisture, Miscellaneous (%)	15	13	9.925	0.5681	0.4123	0.1110	0.4269	4.20%	1.13%	4.35%	3.846
011.01	Loss on Drying, 135°C 2hr (%)	64	59	10.49	0.4400	0.4191	0.1225	0.4367	4.00%	1.17%	4.17%	3.565
012.00	Starch, Polarimetric (Ewers) (%)	15	14	39.08	2.169	1.134	0.4795	1.231	2.87%	1.21%	3.11%	2.568
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	11	37.47	2.002	2.027	0.6591	2.132	5.40%	1.76%	5.68%	3.234
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	16	3.359	0.7647	0.6929	0.1181	0.7029	21.18%	3.61%	21.48%	5.952
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	15	13	4.080	0.6327	0.4133	0.1572	0.4422	9.84%	3.74%	10.53%	2.813
019.00	Calcium, Ox-Mn04 Vol. (%)	12	10	3.134	0.3438	0.0935	0.0297	0.0981	3.08%	0.98%	3.23%	3.300
019.08	Calcium, EDTA (%)	10	9	3.089	0.1088	0.1020	0.0343	0.1076	3.29%	1.11%	3.47%	3.135
019.31	Calcium, AAS, Dry ash (%)	20	18	3.057	0.1220	0.1218	0.0376	0.1275	3.98%	1.23%	4.17%	3.393
019.41	Calcium, ICP, Dry ash (%)	29	27	3.051	0.1982	0.1328	0.0677	0.1490	4.39%	2.24%	4.93%	2.203
019.42	Calcium, ICP, Open vessel (%)	18	16	3.066	0.2261	0.1734	0.0839	0.1926	5.57%	2.70%	6.19%	2.295
019.43	Calcium, ICP, Microwave (%)	25	24	3.033	0.1326	0.1256	0.0604	0.1393	4.14%	1.99%	4.59%	2.308
022.31	Copper, AAS, Dry ash (ppm)	15	12	69.73	7.160	4.855	0.7137	4.907	7.13%	1.05%	7.21%	6.876
022.41	Copper, ICP, Dry ash (ppm)	21	20	67.93	4.045	3.184	2.689	4.167	4.66%	3.93%	6.10%	1.550
022.42	Copper, ICP, Open vessel (ppm)	19	17	68.63	8.667	4.927	2.631	5.585	6.97%	3.72%	7.90%	2.123
022.43	Copper, ICP, Microwave (ppm)	21	18	67.21	16.13	5.683	2.161	6.080	8.05%	3.06%	8.61%	2.813
025.31	Iron, AAS, Dry ash (ppm)	19	17	949.1	157.4	125.5	15.85	126.5	12.99%	1.64%	13.09%	7.983

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)	24	23	896.4	86.44	85.50	17.93	87.36	9.54%	2.00%	9.75%	4.872
025.42	Iron, ICP, Open vessel (ppm)	15	12	804.7	223.8	133.7	28.10	136.7	15.66%	3.29%	16.00%	4.864
025.43	Iron, ICP, Microwave (ppm)	21	21	919.2	65.91	64.78	17.14	67.02	7.05%	1.87%	7.29%	3.909
027.31	Magnesium, AAS, Dry ash (%)	17	16	0.2137	0.0164	0.0090	0.0032	0.0096	4.28%	1.51%	4.54%	2.998
027.41	Magnesium, ICP, Dry ash (%)	23	21	0.2125	0.0132	0.0115	0.0045	0.0124	5.39%	2.10%	5.78%	2.748
027.42	Magnesium, ICP, Open vessel (%)	20	18	0.2050	0.0212	0.0132	0.0072	0.0150	6.30%	3.43%	7.18%	2.090
027.43	Magnesium, ICP, Microwave (%)	23	20	0.2099	0.0115	0.0086	0.0054	0.0101	4.13%	2.61%	4.88%	1.873
028.31	Manganese, AAS, Dry ash (ppm)	16	13	157.0	13.54	9.435	1.451	9.546	5.93%	0.91%	6.00%	6.581
028.41	Manganese, ICP, Dry ash (ppm)	21	21	152.6	14.48	13.83	6.074	15.10	9.07%	3.98%	9.90%	2.487
028.42	Manganese, ICP, Open vessel (ppm)	19	17	158.5	25.39	12.59	3.196	12.99	7.69%	1.95%	7.94%	4.063
028.43	Manganese, ICP, Microwave (ppm)	22	22	160.7	9.823	9.236	4.730	10.38	5.75%	2.94%	6.46%	2.194
031.01	Phosphorus, Photometric (%)	41	36	0.9136	0.0445	0.0200	0.0138	0.0243	2.16%	1.50%	2.63%	1.755
031.41	Phosphorus, ICP, Dry ash (%)	25	24	0.9385	0.0646	0.0644	0.0195	0.0673	6.86%	2.08%	7.17%	3.448
031.42	Phosphorus, ICP, Open vessel (%)	18	17	0.8845	0.0651	0.0648	0.0208	0.0681	7.31%	2.34%	7.68%	3.278
031.43	Phosphorus, ICP, Microwave (%)	25	23	0.9428	0.0433	0.0432	0.0135	0.0453	4.59%	1.43%	4.81%	3.351
032.31	Potassium, AAS, Dry ash (%)	13	11	0.8141	0.0940	0.0499	0.0123	0.0514	6.31%	1.56%	6.50%	4.178
032.41	Potassium, ICP, Dry ash (%)	24	22	0.7877	0.0412	0.0396	0.0178	0.0434	5.02%	2.25%	5.50%	2.444
032.42	Potassium, ICP, Open vessel (%)	18	18	0.8084	0.0534	0.0514	0.0207	0.0554	6.36%	2.56%	6.85%	2.676
032.43	Potassium, ICP, Microwave (%)	24	24	0.7967	0.0462	0.0449	0.0153	0.0474	5.63%	1.92%	5.95%	3.103
033.00	Salt as chloride, Sol Cl (%)	25	24	1.497	0.0785	0.0593	0.0340	0.0684	3.94%	2.26%	4.54%	2.010
033.01	Salt as chloride, Poten Cl (%)	28	26	1.532	0.0498	0.0229	0.0262	0.0348	1.50%	1.72%	2.28%	1.327
033.99	Salt, Miscellaneous (%)	11	10	1.398	0.1757	0.0596	0.0310	0.0672	4.12%	2.14%	4.64%	2.166
034.53	Selenium, ICP-MS, Microwave (ppm)	8	8	1.469	0.1563	0.1511	0.0568	0.1614	10.29%	3.87%	10.99%	2.843
035.31	Sodium, AAS, Dry ash (%)	17	16	0.5465	0.0481	0.0473	0.0124	0.0489	8.65%	2.27%	8.94%	3.935
035.41	Sodium, ICP, Dry ash (%)	24	22	0.5527	0.0336	0.0311	0.0122	0.0334	5.60%	2.20%	6.02%	2.737
035.42	Sodium, ICP, Open vessel (%)	15	14	0.5576	0.0336	0.0326	0.0110	0.0344	5.85%	1.98%	6.18%	3.124
035.43	Sodium, ICP, Microwave (%)	21	20	0.5635	0.0256	0.0205	0.0094	0.0226	3.62%	1.66%	3.98%	2.403
036.42	Sulfur, ICP, Open vessel (%)	19	18	0.2914	0.0238	0.0240	0.0063	0.0249	8.26%	2.16%	8.53%	3.956
036.43	Sulfur, ICP, Microwave (%)	14	13	0.3090	0.0278	0.0274	0.0069	0.0282	8.86%	2.25%	9.14%	4.065
037.31	Zinc, AAS, Dry ash (ppm)	18	15	530.8	144.5	49.57	6.022	49.93	8.77%	1.07%	8.84%	8.291
037.41	Zinc, ICP, Dry ash (ppm)	21	19	569.2	44.26	30.50	13.98	33.56	5.40%	2.47%	5.94%	2.400
037.42	Zinc, ICP, Open vessel (ppm)	18	16	552.9	146.8	51.95	14.09	53.83	8.91%	2.42%	9.23%	3.822
037.43	Zinc, ICP, Microwave (ppm)	23	23	582.4	44.96	42.94	18.87	46.90	7.37%	3.24%	8.05%	2.486
106.02	Vitamin A, LC (KU / kg)	12	11	9.820	6.761	3.736	1.187	3.920	45.69%	14.52%	47.94%	3.302
109.02	Vitamin E, LC (IU / kg)	9	8	81.30	29.04	8.085	5.197	9.611	8.93%	5.74%	10.61%	1.849
120.00	Alanine, Post-col Ninhydrin Der (%)	21	18	0.7929	0.0413	0.0168	0.0113	0.0202	2.11%	1.42%	2.55%	1.789
121.00	Arginine, Post-col Ninhydrin Der (%)	21	18	1.008	0.0342	0.0199	0.0144	0.0246	1.99%	1.44%	2.46%	1.702
122.00	Aspartic, Post-col Ninhydrin Der (%)	21	18	1.387	0.0786	0.0607	0.0185	0.0635	4.33%	1.32%	4.53%	3.426
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	21	16	0.2651	0.0383	0.0234	0.0039	0.0237	8.81%	1.46%	8.93%	6.098
125.00	Glutamic, Post-col Ninhydrin Der (%)	21	19	2.721	0.1414	0.1422	0.0382	0.1473	5.22%	1.40%	5.41%	3.854
126.00	Glycine, Post-col Ninhydrin Der (%)	21	19	0.7433	0.0420	0.0332	0.0083	0.0342	4.50%	1.12%	4.64%	4.132
127.00	Histidine, Post-col Ninhydrin Der (%)	21	18	0.3991	0.0261	0.0178	0.0079	0.0195	4.50%	2.01%	4.93%	2.453
128.00	Isoleucine, Post-col Ninhydrin Der (%)	21	20	0.5658	0.0391	0.0374	0.0162	0.0407	6.61%	2.86%	7.20%	2.515
129.00	Leucine, Post-col Ninhydrin Der (%)	21	19	1.206	0.0532	0.0402	0.0174	0.0438	3.35%	1.45%	3.65%	2.520
130.00	L-Lysine, Post-col Ninhydrin Der (%)	21	20	0.7388	0.0267	0.0229	0.0193	0.0300	3.10%	2.62%	4.06%	1.549
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	21	20	0.2394	0.0233	0.0228	0.0068	0.0237	9.50%	2.84%	9.92%	3.489

Test Material Code # 201932

Issue Date : 01/31/2020

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
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	21	19	0.7088	0.0471	0.0439	0.0117	0.0455	6.24%	1.67%	6.45%	3.873
133.00	Proline, Post-col Ninhydrin Der (%)	21	18	0.9299	0.1037	0.0686	0.0306	0.0751	7.24%	3.23%	7.93%	2.454
134.00	Serine, Post-col Ninhydrin Der (%)	21	20	0.7158	0.0519	0.0503	0.0181	0.0535	7.03%	2.53%	7.47%	2.955
135.00	Threonine, Post-col Ninhydrin Der (%)	21	19	0.5572	0.0345	0.0225	0.0117	0.0253	4.07%	2.13%	4.60%	2.158
137.00	Tyrosine, Post-col Ninhydrin Der (%)	15	14	0.4764	0.0666	0.0661	0.0109	0.0670	13.87%	2.30%	14.06%	6.127
138.00	Valine, Post-col Ninhydrin Der (%)	21	18	0.6869	0.0601	0.0502	0.0113	0.0514	7.24%	1.63%	7.42%	4.554
400.01	Water Activity, Aqualab chilled mirror (Units)	8	8	0.5517	0.0379	0.0378	0.0043	0.0380	6.85%	0.78%	6.90%	8.790

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