

**Animal Feed Scheme**  
**Swine Feed, Medicated**  
**Test Material Code # 201822**

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

**# Methods Reported: 395**  
**# Labs Reporting: 202**  
**Issue Date : 03/31/2018**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
000.02	Urea, As protein, Colorimetric (%)	1	1	0.15000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	7	6	8.4547	0.17528	8.4547	0.19876	0.10143	2.35%	0.02433	2.90%
001.03	Loss on Drying, Low temp. methods (%)	7	7	8.3508	0.19148	8.3508	0.21713	0.10259	2.60%	0.03469	2.91%
001.05	Loss on Drying, LECO (%)	2	2	8.2900	0.12021						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	45	43	8.3265	0.35587	8.3540	0.25008	0.04767	2.99%	0.11097	2.91%
001.99	Loss on Drying, Miscellaneous (%)	20	19	8.0705	0.51513	8.1230	0.43278	0.12411	5.33%	0.16555	2.92%
002.01	Protein, Crude, Auto Kjel-Foss (%)	17	17	18.501	1.3976	18.459	0.24763	0.07507	1.34%	0.17665	2.33%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	4	4	18.337	0.33939	18.337	0.33939	0.21212	1.85%	0.05983	2.34%
002.03	Protein, Crude, Hach Method (%)	1	1	16.790							
002.04	Protein, Crude, Copper Catalyst (%)	5	4	18.284	0.37780	18.284	0.37780	0.23613	2.07%	0.32025	2.34%
002.05	Protein, Crude, Copper, Boric Acid (%)	33	32	18.361	0.26335	18.333	0.20970	0.04634	1.14%	0.07107	2.34%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	135	133	18.657	0.35959	18.654	0.28731	0.03114	1.54%	0.19837	2.32%
002.08	Protein, Crude, Cu/Ti (%)	2	2	18.559	0.10023						
002.11	Protein, Crude, NIR (%)	8	8	20.836	1.0432	20.836	1.1830	0.52280	5.68%	0.23513	2.19%
002.99	Protein, Crude, Miscellaneous (%)	2	2	18.598	0.11667						
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	16	16	3.5661	0.45654	3.6127	0.39978	0.12493	11.07%	0.11217	3.30%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	3.5350							
003.06	Fat, Crude, Pet Ether (%)	19	19	3.6844	0.21511	3.6849	0.15651	0.04488	4.25%	0.11355	3.29%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	22	22	3.7240	0.32480	3.7052	0.22423	0.05976	6.05%	0.07013	3.28%
003.10	Fat, Crude, Randall, Pet Ether (%)	32	32	3.5214	0.49384	3.5331	0.23224	0.05132	6.57%	0.09677	3.31%
003.11	Fat, Crude, NIR (%)	7	7	3.6681	0.73412	3.6681	0.83249	0.39332	22.70%	0.08006	3.29%
003.12	Fat, Crude, Hexane Ext (%)	4	3	3.1182	0.67443	3.1182	0.67443	0.48673	21.63%	0.00477	3.37%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	7	7	3.6114	0.15223	3.6114	0.17262	0.08156	4.78%	0.14857	3.30%
003.14	Fat, Crude, Ankom (%)	42	41	2.9951	0.52952	3.0292	0.48828	0.09532	16.12%	0.12439	3.39%
003.99	Fat, Crude, Miscellaneous (%)	5	5	3.8700	0.62275	3.8700	0.62275	0.34813	16.09%	0.18000	3.26%
004.00	Fiber, Crude, Asbestos Free (%)	21	21	3.7169	0.48300	3.6362	0.26008	0.07094	7.15%	0.18493	3.29%
004.03	Fiber, Crude, Fritted Glass (%)	7	7	4.2022	1.2743	3.9315	0.73228	0.34597	18.63%	0.18871	3.25%
004.06	Fiber, Crude, Fibertec (%)	27	26	3.9792	0.53781	3.9084	0.39963	0.09797	10.22%	0.08009	3.26%
004.07	Fiber, Crude, ANKOM (%)	67	63	4.0698	1.1034	3.8938	0.46576	0.07335	11.96%	0.17242	3.26%
004.11	Fiber, Crude, NIR (%)	7	7	3.9486	0.41294	3.9609	0.44006	0.20791	11.11%	0.15783	3.25%
004.99	Fiber, Crude, Miscellaneous (%)	4	4	3.4950	0.17137	3.4950	0.17137	0.10711	4.90%	0.13500	3.31%
005.00	Ash, 2h @ 600°C (%)	94	91	14.763	0.70088	14.866	0.53541	0.07016	3.60%	0.17630	2.59%

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005.02	Ash, LECO (%)	1	1	16.000							
005.03	Ash, Microwave furnace (%)	1	1	14.400							
005.05	Ash, 3h @ 550°C (%)	36	36	15.179	0.71993	15.293	0.33732	0.07027	2.21%	0.14751	2.56%
005.11	Ash, NIR (%)	5	5	11.052	3.5881	11.052	3.5881	2.0058	32.47%	0.30624	2.79%
005.99	Ash, Miscellaneous (%)	8	8	15.186	0.49371	15.186	0.55987	0.24743	3.69%	0.17250	2.57%
006.00	Total Sugars, As sucrose (%)	2	2	4.0450	1.6758						
006.01	Total Sugars, Mod. Fehling Soln (%)	2	2	6.3425	0.78842						
006.99	Total Sugars, Miscellaneous (%)	1	1	5.9000							
008.02	Fiber, Acid Detergent, Crucible (%)	19	19	5.0214	0.66669	4.9652	0.54803	0.15716	11.04%	0.20402	3.14%
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	38	37	5.2915	0.71565	5.2767	0.71136	0.14618	13.48%	0.22928	3.11%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	3	3	5.1887	0.35624	5.1887	0.35624	0.31487	6.87%	0.34200	3.12%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	9.8300							
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	16	15	10.870	1.1355	10.879	1.2703	0.40998	11.68%	0.32524	2.79%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	39	38	10.634	1.1159	10.561	1.0886	0.22073	10.31%	0.34564	2.81%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	3	3	9.7117	2.2650	9.7117	2.2650	2.0020	23.32%	0.10333	2.84%
010.03	Moisture, Karl-Fischer (%)	3	3	8.2200	0.36459	8.2200	0.36459	0.26312	4.44%	0.17333	2.91%
010.11	Moisture, NIR (%)	8	8	9.0633	0.59008	8.9763	0.44607	0.19714	4.97%	0.10800	2.87%
010.99	Moisture, Miscellaneous (%)	20	20	8.4555	0.78660	8.4931	0.61166	0.17096	7.20%	0.07612	2.90%
011.01	Loss on Drying, 135°C 2hr (%)	66	64	9.1380	0.41603	9.1694	0.28129	0.04395	3.07%	0.08675	2.87%
011.02	Loss on Drying, 130°C for 2 hours (%)	3	3	9.1817	0.33005	9.1817	0.33005	0.23819	3.59%	0.10333	2.86%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	8.7550	0.07778						
012.00	Starch, Polarimetric (Ewers) (%)	19	18	31.265	0.90194	31.233	0.79247	0.23349	2.54%	0.15974	1.79%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	9	9	27.828	4.4644	27.929	4.8357	2.0149	17.31%	0.98370	1.89%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	6	5	30.531	2.2080	30.531	2.2080	1.2343	7.23%	0.30012	1.81%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	4	30.549	0.21727	30.549	0.21727	0.13579	0.71%	0.32250	1.81%
012.11	Starch, NIR (%)	2	2	34.031	2.1443						
012.99	Starch, Miscellaneous (%)	1	1	30.500							
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	19	19	4.2204	0.46310	4.2333	0.46958	0.13466	11.09%	0.19914	3.22%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	18	4.8720	0.40546	4.9162	0.32737	0.09645	6.66%	0.19696	3.15%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	2	2	3.4263	0.38707						
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	5	4	4.2008	0.45266	4.2008	0.45266	0.28291	10.78%	0.08048	3.22%
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	3.9330							
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	6	5	4.0519	0.79754	4.0519	0.79754	0.44584	19.68%	0.09104	3.24%
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	4	4	234.85	43.437	234.85	43.437	27.148	18.50%	6.3250	7.03%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	220.55							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	6	6	224.21	19.219	224.21	21.794	11.122	9.72%	6.7819	7.08%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	199.50							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	1	1	264.00							
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	4	4	12.854	1.3459	12.854	1.3459	0.84119	10.47%	0.11750	10.89%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	5	4	13.373	1.6365	13.373	1.6365	1.0228	12.24%	0.22875	10.83%

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017.43	Boron, ICP, Microwave (mg / kg (ppm))	4	3	13.127	1.0581	13.127	1.0581	0.76362	8.06%	0.20667	10.86%
017.52	Boron, ICP-MS, Open vessel (mg / kg (ppm))	1	1	12.928							
019.00	Calcium, Ox-Mn04 Vol. (%)	14	14	4.0049	0.12558	4.0049	0.14241	0.04758	3.56%	0.03272	3.25%
019.02	Calcium, Hach Method (%)	2	2	2.9913	1.6988						
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	4.2341							
019.08	Calcium, EDTA (%)	9	9	4.0503	0.12299	4.0503	0.13948	0.05811	3.44%	0.08079	3.24%
019.09	Calcium, Ion-selective electrode (%)	1	1	4.0020							
019.31	Calcium, AAS, Dry ash (%)	25	24	4.0672	0.19675	4.0620	0.19706	0.05028	4.85%	0.07116	3.24%
019.32	Calcium, AAS, Open vessel (%)	2	2	4.0925	0.30052						
019.33	Calcium, AAS, Microwave (%)	1	1	4.0000							
019.41	Calcium, ICP, Dry ash (%)	29	28	4.0289	0.20268	4.0289	0.19200	0.04536	4.77%	0.09843	3.24%
019.42	Calcium, ICP, Open vessel (%)	19	18	4.1243	0.32086	4.1041	0.29495	0.08690	7.19%	0.09328	3.23%
019.43	Calcium, ICP, Microwave (%)	29	28	3.9972	0.24725	4.0060	0.23249	0.05492	5.80%	0.07618	3.25%
019.44	Calcium, ICP, Dry ash (%)	1	1	4.0265							
019.52	Calcium, ICP-MS, Open vessel (%)	4	4	3.7382	0.42486	3.7382	0.42486	0.26554	11.37%	0.23418	3.28%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	3.7375	0.44797	3.7375	0.44797	0.27998	11.99%	0.18500	3.28%
019.99	Calcium, Miscellaneous (%)	7	7	3.8346	0.43912	3.8611	0.43544	0.20573	11.28%	0.13343	3.26%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	3	3	1.7883	0.39007	1.7883	0.39007	0.34478	21.81%	0.03667	14.66%
021.34	Cobalt, AAS, Graphite furnace (mg / kg (ppm))	1	1	1.7050							
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	3	3	1.4273	0.51693	1.4273	0.51693	0.37306	36.22%	0.03467	15.16%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	3	3	1.4748	0.13946	1.4748	0.13946	0.10065	9.46%	0.31767	15.09%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	8	7	1.8255	0.16813	1.8255	0.19066	0.09008	10.44%	0.05687	14.61%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	3	3	1.3052	0.09976	1.3052	0.09976	0.08818	7.64%	0.04860	15.37%
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	4	3	1.4355	0.32371	1.4355	0.32371	0.23362	22.55%	0.03800	15.15%
021.99	Cobalt, Miscellaneous (mg / kg (ppm))	1		20.000							
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	18	17	182.71	15.673	184.24	12.177	3.6917	6.61%	3.8853	7.30%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	3	3	185.08	10.122	185.08	10.122	8.9467	5.47%	8.2920	7.29%
022.33	Copper, AAS, Microwave (mg / kg (ppm))	3	3	246.29	66.088	246.29	66.088	47.695	26.83%	6.0097	6.98%
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	22	175.22	11.932	175.08	13.239	3.5282	7.56%	8.0398	7.35%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	20	20	200.65	20.692	200.78	11.827	3.3059	5.89%	8.2049	7.20%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	25	25	201.91	14.481	200.99	13.156	3.2891	6.55%	10.052	7.20%
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	4	4	160.45	40.328	160.45	40.328	25.205	25.13%	7.3354	7.45%
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	4	4	187.14	17.509	187.14	17.509	10.943	9.36%	10.658	7.28%
022.99	Copper, Miscellaneous (mg / kg (ppm))	4	4	195.88	19.124	195.88	19.124	11.953	9.76%	4.7500	7.23%
024.03	Iodine, Ion-selective electrode (mg / kg (ppm))	1	1	2.5000							
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	19	17	1,194.7	80.378	1,194.5	78.899	23.920	6.61%	24.472	5.51%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	3	3	1,015.1	177.09	1,015.1	177.09	156.53	17.45%	101.40	5.64%
025.33	Iron, AAS, Microwave (mg / kg (ppm))	1	1	1,309.5							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	23	22	1,158.4	131.10	1,184.1	85.245	22.718	7.20%	33.988	5.51%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	16	15	1,019.9	301.79	1,085.7	177.13	57.168	16.31%	31.503	5.59%

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025.43	Iron, ICP, Microwave (mg / kg (ppm))	24	24	1,155.2	121.54	1,170.9	97.851	24.967	8.36%	42.488	5.52%
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	2	2	1,121.1	198.62						
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	3	3	1,078.0	240.42	1,078.0	240.42	173.51	22.30%	22.667	5.59%
025.99	Iron, Miscellaneous (mg / kg (ppm))	3	3	1,106.2	202.58	1,106.2	202.58	146.20	18.31%	36.333	5.57%
027.31	Magnesium, AAS, Dry ash (%)	14	13	0.21600	0.01874	0.21419	0.01648	0.00571	7.69%	0.00379	5.04%
027.32	Magnesium, AAS, Open vessel (%)	3	3	69.492	119.95	69.492	119.95	106.02	172.61%	2.0033	1.20%
027.33	Magnesium, AAS, Microwave (%)	1	1	0.25050							
027.41	Magnesium, ICP, Dry ash (%)	24	24	0.21733	0.01661	0.21569	0.01164	0.00297	5.40%	0.00799	5.04%
027.42	Magnesium, ICP, Open vessel (%)	19	19	0.21614	0.01745	0.21569	0.01651	0.00473	7.65%	0.01292	5.04%
027.43	Magnesium, ICP, Microwave (%)	24	23	0.21237	0.01075	0.21308	0.00887	0.00231	4.16%	0.00630	5.05%
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.22050	0.00873	0.22050	0.00873	0.00630	3.96%	0.00327	5.02%
027.53	Magnesium, ICP-MS, Microwave (%)	3	2	0.21500	0.00849	0.21500	0.00849			0.00800	5.04%
027.99	Magnesium, Miscellaneous (%)	5	5	0.21686	0.00775	0.21686	0.00775	0.00433	3.57%	0.00964	5.03%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	18	17	182.40	8.7883	183.07	7.9204	2.4012	4.33%	3.6627	7.30%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	4	4	183.80	9.9718	183.80	9.9718	6.2324	5.43%	5.4905	7.30%
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	2	2	137.08	54.555						
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	22	21	181.25	33.530	176.28	12.219	3.3330	6.93%	4.1815	7.34%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	20	20	181.38	12.170	181.38	13.801	3.8574	7.61%	8.7508	7.31%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	25	24	180.93	9.8246	180.34	9.6374	2.4590	5.34%	7.8006	7.32%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	1	1	177.55							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	3	3	165.95	29.765	165.95	29.765	21.481	17.94%	4.4286	7.41%
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	5	5	178.28	11.325	178.28	11.325	6.3309	6.35%	11.694	7.33%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	4	4	192.38	4.7500	192.38	4.7500	2.9688	2.47%	7.5500	7.25%
031.00	Phosphorus, Vol (%)	2	2	1.1575	0.00354						
031.01	Phosphorus, Photometric (%)	49	47	1.1366	0.04629	1.1409	0.03800	0.00693	3.33%	0.01930	3.92%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	3	3	1.1832	0.00275	1.1832	0.00275	0.00243	0.23%	0.02700	3.90%
031.03	Phosphorus, Autoanalyzer (%)	4	4	1.1697	0.04105	1.1697	0.04105	0.02566	3.51%	0.02075	3.91%
031.06	Phosphorus, Hach Method (%)	2	2	1.0620	0.27153						
031.41	Phosphorus, ICP, Dry ash (%)	28	26	1.1475	0.07822	1.1484	0.06203	0.01521	5.40%	0.03231	3.92%
031.42	Phosphorus, ICP, Open vessel (%)	19	19	1.1248	0.07206	1.1270	0.07650	0.02194	6.79%	0.04286	3.93%
031.43	Phosphorus, ICP, Microwave (%)	28	28	1.1421	0.06440	1.1453	0.06341	0.01498	5.54%	0.03224	3.92%
031.52	Phosphorus, ICP-MS, Open vessel (%)	3	3	1.0860	0.05727	1.0860	0.05727	0.04133	5.27%	0.05010	3.95%
031.53	Phosphorus, ICP-MS, Microwave (%)	4	4	1.1409	0.10025	1.1409	0.10025	0.06266	8.79%	0.02875	3.92%
031.99	Phosphorus, Miscellaneous (%)	5	5	1.0846	0.09421	1.0846	0.09421	0.05266	8.69%	0.01164	3.95%
032.02	Potassium, Flame Emission (%)	2	2	0.91750	0.00354						
032.31	Potassium, AAS, Dry ash (%)	15	14	0.90393	0.08036	0.90971	0.06517	0.02177	7.16%	0.01569	4.06%
032.32	Potassium, AAS, Open vessel (%)	3	3	0.96167	0.05485	0.96167	0.05485	0.04848	5.70%	0.01000	4.02%
032.41	Potassium, ICP, Dry ash (%)	25	25	0.90560	0.04890	0.90226	0.02828	0.00707	3.13%	0.02466	4.06%
032.42	Potassium, ICP, Open vessel (%)	18	17	0.92983	0.04966	0.92983	0.05632	0.01707	6.06%	0.01156	4.04%
032.43	Potassium, ICP, Microwave (%)	24	24	0.92124	0.03453	0.92123	0.03915	0.00999	4.25%	0.01984	4.05%

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032.52	Potassium, ICP-MS, Open vessel (%)	2	2	0.92498	0.07845						
032.53	Potassium, ICP-MS, Microwave (%)	3	3	0.98600	0.05730	0.98600	0.05730	0.04135	5.81%	0.01533	4.01%
032.99	Potassium, Miscellaneous (%)	6	6	0.85462	0.33416	0.89537	0.20742	0.10585	23.17%	0.01627	4.07%
033.00	Salt as chloride, Sol Cl (%)	26	26	1.8906	0.27519	1.9406	0.12598	0.03088	6.49%	0.03321	3.62%
033.01	Salt as chloride, Poten Cl (%)	31	30	2.0238	0.07279	2.0350	0.05098	0.01163	2.51%	0.01586	3.59%
033.03	Salt as chloride, Quantab (%)	4	4	1.9000	0.24823	1.9000	0.24823	0.15514	13.06%	0.19000	3.63%
033.05	Salt as chloride, Ion Sel Electrode (%)	5	4	1.9500	0.61953	1.9500	0.61953	0.38721	31.77%	0.01500	3.62%
033.99	Salt, Miscellaneous (%)	9	9	1.9152	0.25156	1.9438	0.12836	0.05348	6.60%	0.06367	3.62%
034.01	Selenium, Fluor (mg / kg (ppm))	1	1	2.4750							
034.04	Selenium, AA, Hydride (mg / kg (ppm))	7	7	1.8175	0.42158	1.8935	0.28258	0.13351	14.92%	0.11943	14.53%
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	2	2	2.1650	0.27577						
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	1	1	2.8000							
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	3	3	2.0398	0.52855	2.0398	0.52855	0.38145	25.91%	0.07680	14.37%
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	6	6	2.2229	0.57535	2.2229	0.65245	0.33295	29.35%	0.14288	14.18%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	7	7	2.1652	0.40987	2.2377	0.27884	0.13174	12.46%	0.12186	14.17%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	2.3000							
035.01	Sodium, Ion-selective electrode (%)	2	2	0.69000	0.00707						
035.02	Sodium, Em Spect (%)	1	1	0.72500							
035.05	Sodium, Flame Emission (%)	4	4	0.77900	0.02107	0.77900	0.02107	0.01317	2.70%	0.01500	4.15%
035.31	Sodium, AAS, Dry ash (%)	19	18	0.71598	0.05146	0.71956	0.04990	0.01470	6.93%	0.01783	4.20%
035.32	Sodium, AAS, Open vessel (%)	3	3	0.68500	0.12135	0.68500	0.12135	0.10726	17.72%	0.00333	4.23%
035.41	Sodium, ICP, Dry ash (%)	25	25	0.72214	0.02984	0.72142	0.02811	0.00703	3.90%	0.02161	4.20%
035.42	Sodium, ICP, Open vessel (%)	17	17	0.73480	0.05635	0.73060	0.05293	0.01605	7.25%	0.03319	4.19%
035.43	Sodium, ICP, Microwave (%)	23	23	0.72862	0.04245	0.72870	0.04799	0.01251	6.59%	0.02057	4.19%
035.52	Sodium, ICP-MS, Open vessel (%)	3	3	0.76118	0.03282	0.76118	0.03282	0.02369	4.31%	0.02317	4.17%
035.53	Sodium, ICP-MS, Microwave (%)	4	3	0.75267	0.04771	0.75267	0.04771	0.03443	6.34%	0.02800	4.17%
035.99	Sodium, Miscellaneous (%)	6	6	0.76865	0.03168	0.76255	0.02057	0.01050	2.70%	0.01017	4.17%
036.04	Sulfur, LECO (%)	4	3	0.29683	0.00318	0.29683	0.00318	0.00229	1.07%	0.01633	4.80%
036.42	Sulfur, ICP, Open vessel (%)	19	18	0.29908	0.03324	0.29626	0.03059	0.00901	10.33%	0.00649	4.80%
036.43	Sulfur, ICP, Microwave (%)	13	13	0.29622	0.02869	0.29649	0.03194	0.01107	10.77%	0.00994	4.80%
036.52	Sulfur, ICP-MS, Open vessel (%)	1	1	0.30300							
036.99	Sulfur, Miscellaneous (%)	2	2	0.29473	0.02160						
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	18	18	630.06	79.961	640.31	51.927	15.299	8.11%	21.487	6.05%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	4	4	648.29	55.285	648.29	55.285	34.553	8.53%	73.706	6.04%
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	3	3	640.05	17.142	640.05	17.142	12.371	2.68%	18.929	6.05%
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	22	22	622.39	43.441	622.14	45.683	12.175	7.34%	20.400	6.08%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	18	17	622.96	57.194	624.89	56.309	17.071	9.01%	31.123	6.07%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	24	23	632.95	62.366	625.03	47.230	12.310	7.56%	17.579	6.07%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	1	1	694.65							
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	3	3	513.18	154.90	513.18	154.90	111.79	30.18%	19.924	6.25%

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037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	4	4	631.22	49.166	631.22	49.166	30.729	7.79%	13.103	6.06%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	5	4	663.38	31.705	663.38	31.705	19.816	4.78%	11.750	6.02%
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	3	3	1.9543	0.17495	1.9543	0.17495	0.12626	8.95%	0.06067	14.46%
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	4	2.1974	0.33689	2.1974	0.33689	0.21056	15.33%	0.07068	14.21%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	7	7	2.1407	0.42725	2.0648	0.28965	0.13685	14.03%	0.08867	14.34%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	3	3	2.1576	0.22086	2.1576	0.22086	0.15939	10.24%	0.07980	14.25%
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	3	3	2.0135	0.24699	2.0135	0.24699	0.17825	12.27%	0.05537	14.40%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	4.8550							
040.52	Barium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	4.7397							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	4.1978							
041.43	Vanadium, ICP, Microwave (mg / kg (ppm))	1	1	4.1172							
041.53	Vanadium, ICP-MS, Microwave (mg / kg (ppm))	1	1	4.0250							
042.00	Chloride, Titrimetric (%)	1	1	1.2455							
101.00	Choline Chloride, Microbiological (mg / kg (ppm))	2	2	2,052.4	703.70						
101.01	Choline Chloride, Chem (mg / kg (ppm))	1	1	1,950.0							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	210.00							
102.02	Niacin, LC (mg / kg (ppm))	1	1	135.62							
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	87.750							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	2	2	35.050	3.3941						
104.03	Riboflavin, LC (mg / kg (ppm))	3	3	47.513	30.093	47.513	30.093	21.718	63.34%	1.1333	8.95%
105.00	Thiamine, LC (mg / kg (ppm))	1	1	8.4000							
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	9.3650							
106.00	Vitamin A, Color (KU / kg)	3	3	29.967	2.3578	29.967	2.3578	1.7016	7.87%	0.73957	
106.01	Vitamin A, UV (KU / kg)	1	1	20.850							
106.02	Vitamin A, LC (KU / kg)	21	21	27.504	8.0525	26.541	5.1679	1.4097	19.47%	4.0635	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	72.600							
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	4.0000							
108.02	Vitamin D3, LC (KU / kg)	4	4	2.9638	0.86533	2.9638	0.86533	0.54083	29.20%	0.14250	
109.02	Vitamin E, LC (IU / kg)	17	17	116.50	28.943	117.77	17.067	5.1742	14.49%	5.7531	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	110.50							
112.01	Pyridoxine, LC (µg / g)	1	1	4.5650							
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	1.6800							
113.02	Folic acid, LC (mg / kg (ppm))	1	1	0.51000							
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.28200							
120.00	Alanine, Post-col Ninhydrin Der (%)	22	22	0.93064	0.05256	0.92077	0.02956	0.00788	3.21%	0.01485	4.05%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.90000							
120.05	Alanine, Pre-col AQC Der (%)	5	5	0.91280	0.02704	0.91280	0.02704	0.01512	2.96%	0.02400	4.06%
120.99	Alanine, Miscellaneous (%)	2	2	0.89900	0.09334						
121.00	Arginine, Post-col Ninhydrin Der (%)	22	21	1.1822	0.05204	1.1870	0.04474	0.01220	3.77%	0.03015	3.90%
121.02	Arginine, Post-col OPA Der (%)	1	1	1.1550							

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121.05	Arginine, Pre-col AQC Der (%)	5	5	1.1804	0.02867	1.1804	0.02867	0.01603	2.43%	0.05920	3.90%
121.99	Arginine, Miscellaneous (%)	1	1	1.3720							
122.00	Aspartic, Post-col Ninhydrin Der (%)	22	22	1.8649	0.08705	1.8514	0.05696	0.01518	3.08%	0.02564	3.65%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.8190							
122.05	Aspartic, Pre-col AQC Der (%)	5	4	1.8253	0.06481	1.8253	0.06481	0.04051	3.55%	0.00650	3.65%
122.99	Aspartic, Miscellaneous (%)	2	2	1.4450	0.79903						
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	22	21	0.29647	0.01773	0.29707	0.01679	0.00458	5.65%	0.00761	4.80%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.30550							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	5	5	0.30460	0.03665	0.30460	0.03665	0.02049	12.03%	0.00600	4.78%
124.99	Cysteine/Cystine, Miscellaneous (%)	2	2	0.25750	0.15203						
125.00	Glutamic, Post-col Ninhydrin Der (%)	22	22	3.3557	0.19395	3.3385	0.15240	0.04062	4.57%	0.04174	3.34%
125.02	Glutamic, Post-col OPA Der (%)	1	1	3.2800							
125.05	Glutamic, Pre-col AQC Der (%)	5	4	3.2755	0.20514	3.2755	0.20514	0.12821	6.26%	0.04600	3.35%
125.99	Glutamic, Miscellaneous (%)	2	2	2.8225	0.54094						
126.00	Glycine, Post-col Ninhydrin Der (%)	22	22	0.79037	0.02704	0.78703	0.02156	0.00574	2.74%	0.01264	4.15%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.77950							
126.05	Glycine, Pre-col AQC Der (%)	5	5	0.79260	0.02964	0.79260	0.02964	0.01657	3.74%	0.01880	4.14%
126.99	Glycine, Miscellaneous (%)	2	2	0.76200	0.04667						
127.00	Histidine, Post-col Ninhydrin Der (%)	22	22	0.48840	0.03979	0.48307	0.01790	0.00477	3.71%	0.01056	4.46%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.46400							
127.05	Histidine, Pre-col AQC Der (%)	5	5	0.46180	0.03056	0.46180	0.03056	0.01708	6.62%	0.02000	4.49%
127.99	Histidine, Miscellaneous (%)	2	2	0.56100	0.12869						
128.00	Isoleucine, Post-col Ninhydrin Der (%)	22	22	0.74423	0.04764	0.74985	0.03718	0.00991	4.96%	0.01313	4.18%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.74500							
128.05	Isoleucine, Pre-col AQC Der (%)	5	4	0.80325	0.02084	0.80325	0.02084	0.01504	2.59%	0.00750	4.13%
128.99	Isoleucine, Miscellaneous (%)	2	2	0.75900	0.06930						
129.00	Leucine, Post-col Ninhydrin Der (%)	22	22	1.5186	0.04964	1.5152	0.03713	0.00989	2.45%	0.01665	3.76%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.5075							
129.05	Leucine, Pre-col AQC Der (%)	5	4	1.5043	0.05015	1.5043	0.05015	0.03134	3.33%	0.02400	3.76%
129.99	Leucine, Miscellaneous (%)	2	2	1.4615	0.01202						
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	22	1.0768	0.04079	1.0822	0.02677	0.00713	2.47%	0.01528	3.95%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	1.0815							
130.05	L-Lysine, Pre-col AQC Der (%)	7	7	1.1139	0.06704	1.1139	0.07602	0.03592	6.82%	0.07986	3.94%
130.99	L-Lysine, Miscellaneous (%)	3	3	1.1843	0.20196	1.1843	0.20196	0.14575	17.05%	0.03400	3.90%
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	22	21	0.26836	0.02252	0.26963	0.02067	0.00564	7.67%	0.00809	4.87%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.26350							
131.05	Methionine, PAO Pre-col AQC Der (%)	6	6	0.26633	0.07818	0.26859	0.08335	0.04254	31.03%	0.00867	4.87%
131.99	Methionine, Miscellaneous (%)	3	3	0.33233	0.13842	0.33233	0.13842	0.09990	41.65%	0.00733	4.72%
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	22	22	0.89459	0.05782	0.88893	0.02656	0.00708	2.99%	0.01472	4.07%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.86100							

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132.05	Phenylalanine, Pre-col AQC Der (%)	5	4	0.85863	0.03267	0.85863	0.03267	0.02358	3.80%	0.00775	4.09%
132.99	Phenylalanine, Miscellaneous (%)	2	2	0.88350	0.06152						
133.00	Proline, Post-col Ninhydrin Der (%)	22	22	1.0797	0.06640	1.0802	0.06096	0.01624	5.64%	0.02137	3.95%
133.05	Proline, Pre-col AQC Der (%)	5	5	1.1157	0.04810	1.1157	0.04810	0.02689	4.31%	0.04140	3.93%
133.99	Proline, Miscellaneous (%)	2	2	1.2620	0.30688						
134.00	Serine, Post-col Ninhydrin Der (%)	22	22	0.90495	0.05450	0.90845	0.05110	0.01362	5.62%	0.01771	4.06%
134.02	Serine, Post-col OPA Der (%)	1	1	0.85150							
134.05	Serine, Pre-col AQC Der (%)	5	5	0.88390	0.05744	0.88390	0.05744	0.03211	6.50%	0.04820	4.07%
134.99	Serine, Miscellaneous (%)	2	2	0.96600	0.14001						
135.00	Threonine, Post-col Ninhydrin Der (%)	22	22	0.71473	0.03908	0.71116	0.03344	0.00891	4.70%	0.01082	4.21%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.69500							
135.05	Threonine, Pre-col AQC Der (%)	5	5	0.70210	0.02159	0.70210	0.02159	0.01207	3.08%	0.02020	4.22%
135.99	Threonine, Miscellaneous (%)	1	1	0.72500							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	7	0.21604	0.02867	0.21743	0.02927	0.01383	13.46%	0.00600	5.03%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.22833	0.01633	0.22833	0.01633	0.01179	7.15%	0.00333	5.00%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.22900							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	4	0.22475	0.00664	0.22475	0.00664	0.00415	2.95%	0.00100	5.01%
136.99	Tryptophan, Miscellaneous (%)	2	2	0.17825	0.08026						
137.02	Tyrosine, Post-col OPA Der (%)	4	3	0.60522	0.00461	0.60522	0.00461	0.00333	0.76%	0.01357	4.31%
137.05	Tyrosine, Pre-col AQC Der (%)	5	5	0.63550	0.09558	0.63550	0.09558	0.05343	15.04%	0.02700	4.28%
137.99	Tyrosine, Miscellaneous (%)	12	12	0.58233	0.10987	0.58130	0.06106	0.02203	10.50%	0.02700	4.34%
138.00	Valine, Post-col Ninhydrin Der (%)	21	21	0.85572	0.03672	0.85386	0.03434	0.00937	4.02%	0.01778	4.10%
138.02	Valine, Post-col OPA Der (%)	1	1	0.86900							
138.05	Valine, Pre-col AQC Der (%)	5	5	0.83260	0.06865	0.83260	0.06865	0.03838	8.25%	0.03120	4.11%
138.99	Valine, Miscellaneous (%)	2	2	0.78300	0.05940						
139.00	Taurine, Post-col Ninhydrin Der (%)	1	1	0.17500							
139.02	Taurine, Post-col OPA Der (%)	1		0.01000							
139.99	Taurine, Miscellaneous (%)	1		0.00000							
142.00	Threonine Free, LC-PCD (%)	1	1	0.85400							
150.00	Phytase, Colorimetric (Units / kg)	2	2	1,846.5	422.14						
150.99	Phytase, Miscellaneous (Units / kg)	4	4	2,872.3	1,150.5	2,872.3	1,150.5	719.06	40.06%	130.50	
160.99	Fructose, Miscellaneous (%)	4	3	0.23400	0.10160	0.23400	0.10160	0.07332	43.42%	0.00400	4.98%
162.99	Glucose, Miscellaneous (%)	4	3	0.21383	0.06946	0.21383	0.06946	0.06139	32.48%	0.02700	5.04%
163.99	Lactose, Miscellaneous (%)	4	4	1.2200	0.13681	1.2200	0.13681	0.08551	11.21%	0.01500	3.88%
164.99	Maltose, Miscellaneous (%)	3									
165.99	Sucrose, Miscellaneous (%)	4	4	3.0713	0.07227	3.0713	0.07227	0.04517	2.35%	0.07250	3.38%
166.99	Raffinose, Miscellaneous (%)	2	2	0.41675	0.07319						
167.99	Stachyose, Miscellaneous (%)	2	2	1.3850	0.14849						
348.01	Bacitracin, Plate, methanol extraction (mg/kg (ppm))	1	1	69.655							
350.01	Carbadox, LC (UV or FL) (mg/kg (ppm))	5	4	22.981	2.2959	22.981	2.2959	1.4349	9.99%	0.50975	9.98%



Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
350.02	Carbadox, LC-MS (mg/kg (ppm))	1	1	25.000							
351.00	Chlortetracycline, Plate (mg/kg (ppm))	6	6	79.157	3.3592	79.253	3.5840	1.8290	4.52%	4.1872	8.28%
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	9	9	80.076	12.787	80.076	14.501	6.0419	18.11%	5.8900	8.27%
351.04	Chlortetracycline, LC-MS (mg/kg (ppm))	1	1	70.500							
351.05	Chlortetracycline, LC-MS/MS (mg/kg (ppm))	1	1	50.250							
377.01	Pyrantel Tartrate, LC (UV or FL) (mg/kg (ppm))	2	2	49.923	4.8044						
377.02	Pyrantel Tartrate, LC-MS (mg/kg (ppm))	1	1	44.500							
382.00	Sulfamethazine, Spectrophotometer (mg/kg (ppm))	2	2	81.110	7.9337						
382.01	Sulfamethazine, LC (mg/kg (ppm))	3	3	75.767	12.097	75.767	12.097	10.692	15.97%	20.667	8.34%
382.02	Sulfamethazine, LC-PCD (mg/kg (ppm))	2	2	83.714	4.0775						
382.03	Sulfamethazine, LC-MS (mg/kg (ppm))	1	1	89.700							
386.00	Tiamulin, LC (mg/kg (ppm))	5	5	145.89	36.100	145.89	36.100	20.181	24.74%	9.8728	7.56%
386.01	Tiamulin, LC-MS (mg/kg (ppm))	1	1	141.00							
400.01	Water Activity, Aqualab chilled mirror (Units)	7	7	0.50869	0.02670	0.50869	0.03027	0.01430	5.95%	0.00136	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.49200	0.00212						
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	2	2	29.728	0.79550						
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	2	2	1.2630	1.2261						
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	1	1	0.90765							
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.45905	0.02008	0.45905	0.02008	0.01449	4.37%	0.01437	17.99%
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	7	6	0.49431	0.09717	0.49431	0.11019	0.05623	22.29%	0.00758	17.79%
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	1	1	0.25200							
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.26307	0.01173	0.26307	0.01173	0.01037	4.46%	0.00653	19.56%
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	7	7	0.27249	0.03613	0.27818	0.02660	0.01257	9.56%	0.01187	19.39%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	1	1	5.7510							
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	3	3	7.5260	1.3990	7.5260	1.3990	1.0096	18.59%	1.0093	11.81%
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	2	2	7.5498	0.62964						
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	2	2	5.4246	1.3570						
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	3	3	5.1415	1.2654	5.1415	1.2654	0.91322	24.61%	0.07097	12.50%
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	1	1	0.58550							
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.34490	0.02304	0.34490	0.02304	0.01663	6.68%	0.00687	18.78%
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	6	5	0.31376	0.02994	0.31376	0.02994	0.01766	9.54%	0.01264	19.05%
529.99	Mercury, Miscellaneous (µg / kg (ppb))	3	3	5.4200	2.9225	5.4200	2.9225	2.1091	53.92%	0.51333	22.00%
539.42	Nickel, ICP, Open vessel (mg / kg (ppm))	1	1	4.6750							
539.43	Nickel, ICP, Microwave (mg / kg (ppm))	1	1	3.5420							
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	2	2	3.4873	0.65372						
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	3	3	3.7668	0.41645	3.7668	0.41645	0.30055	11.06%	0.03927	13.10%
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	2	1	0.00150							
703.00	Valeric Acid (5:0), Miscellaneous GC (%)	1		0.01000							
704.00	Caproic Acid (6:0), Miscellaneous GC (%)	2	2	0.03100	0.04101						
706.01	Caprylic acid (8:0), Direct Methylation by Alkali Hydrolysis & GC (%) (w/w)	1		0.00000							

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
706.99	Caprylic acid (8:0), Miscellaneous (% (w/w))	1	1	0.00010							
708.01	Capric acid (10:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
710.01	Lauric Acid (12:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.01700							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3	3	0.00108	0.00093	0.00108	0.00093	0.00082	86.11%	0.00003	
714.01	Myristic Acid (14:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.01900							
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	2	2	0.00963	0.00951						
716.01	Palmitic Acid (16:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.48000							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.37180	0.39577						
718.01	Palmitoleic Acid (9c-16:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.02450							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	3	3	0.01905	0.01263	0.01905	0.01263	0.00911	66.30%	0.00203	
720.99	Margaric acid (17:0), Miscellaneous (% (w/w))	1	1	0.00100							
722.01	Stearic Acid (18:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.09000							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	2	0.09303	0.09479						
724.01	Oleic Acid (9c-18:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.89250							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.58550	0.57601						
726.01	Linoleic Acid (9c,12c-18:2), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	1.7100							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	1.1740	0.79489	1.1740	0.79489	0.57366	67.71%	0.06773	
728.01	alpha-Linolenic Acid (9c,12c,15c-18:3), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.07150							
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	3	3	0.08285	0.05785	0.08285	0.05785	0.04175	69.82%	0.00330	
730.01	Arachidic Acid (20:0), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.01900							
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	2	0.00795	0.00771						
732.01	Gondoic Acid (11c-20:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1	1	0.01950							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	2	0.00845	0.00778						
736.01	Arachidonic Acid (5c,8c,11c,14c-20:4), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1	1	0.00150							
738.01	Mead Acid (11c,14c,17c-20:3), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
738.99	Mead Acid (11c,14c,17c-20:3), Miscellaneous (% (w/w))	1	1	0.00020							
740.01	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	3	2	0.00130	0.00099	0.00130	0.00099			0.00000	
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	2	0.00530	0.00580						
744.01	Erucic Acid (13c-22:1), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	2	1	0.00020							
746.01	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	3	1								
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	2	2	0.00470	0.00509						
750.01	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	3	2	0.00090	0.00085	0.00090	0.00085			0.00050	
752.01	Nervonic Acid (24:1) isomers, Direct Methylation by Alkali Hydrolysis & GC (% (w/w))	1		0.00000							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	2	1	0.00020							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	1	1	0.12000							

**Test Material Code # 201822**

**Issue Date : 03/31/2018**

Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO PT ffp - Robust sd	Uncertainty (U) - Robust	% RSD - Robust	Average Range (R-bar)	Horwitz %RSD
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	1	1	1.6050							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	0.55000							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	1	1	3.7382							

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.

Animal Feed Scheme

**Method Precision Report**

# Methods Reported: 90

Swine Feed, Medicated

# Labs Reporting: 202

Test Material Code # 201822

Issue Date : 03/31/2018

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 (%)	45	40	8.3265	0.35587	0.23639	0.09391	0.25436	2.82%	1.122%	3.04%	2.7085
001.99	Loss on Drying, Miscellaneous (%)	20	16	8.0705	0.51513	0.27530	0.09434	0.29102	3.34%	1.145%	3.53%	3.0846
002.01	Protein, Crude, Auto Kjel-Foss (%)	17	14	18.501	1.3976	0.14961	0.12023	0.19193	0.81%	0.651%	1.04%	1.5964
002.05	Protein, Crude, Copper, Boric Acid (%)	33	28	18.361	0.26335	0.16732	0.06055	0.17794	0.91%	0.331%	0.97%	2.9387
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	135	125	18.657	0.35959	0.26720	0.17054	0.31699	1.43%	0.914%	1.70%	1.8587
002.11	Protein, Crude, NIR (%)	8	8	20.836	1.0432	1.0321	0.21392	1.0541	4.95%	1.027%	5.06%	4.9275
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	16	14	3.5661	0.45654	0.31146	0.09149	0.32462	8.45%	2.483%	8.81%	3.5481
003.06	Fat, Crude, Pet Ether (%)	19	18	3.6844	0.21511	0.15322	0.11269	0.19020	4.19%	3.084%	5.21%	1.6879
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	22	21	3.7240	0.32480	0.22246	0.05928	0.23022	6.06%	1.614%	6.27%	3.8833
003.10	Fat, Crude, Randall, Pet Ether (%)	32	29	3.5214	0.49384	0.35504	0.07026	0.36193	10.22%	2.022%	10.42%	5.1510
003.14	Fat, Crude, Ankom (%)	42	39	2.9951	0.52952	0.42401	0.10094	0.43586	13.82%	3.291%	14.21%	4.3180
004.00	Fiber, Crude, Asbestos Free (%)	21	20	3.7169	0.48300	0.30114	0.14889	0.33594	8.28%	4.095%	9.24%	2.2563
004.06	Fiber, Crude, Fibertec (%)	27	24	3.9792	0.53781	0.38048	0.06739	0.38640	9.78%	1.732%	9.93%	5.7338
004.07	Fiber, Crude, ANKOM (%)	67	59	4.0698	1.1034	0.41614	0.13629	0.43789	10.75%	3.522%	11.32%	3.2130
005.00	Ash, 2h @ 600°C (%)	94	88	14.763	0.70088	0.65468	0.15165	0.67202	4.42%	1.025%	4.54%	4.4313
005.05	Ash, 3h @ 550°C (%)	36	34	15.179	0.71993	0.32954	0.13731	0.35700	2.15%	0.896%	2.33%	2.6000
005.99	Ash, Miscellaneous (%)	8	8	15.186	0.49371	0.48173	0.15285	0.50540	3.17%	1.006%	3.33%	3.3066
008.02	Fiber, Acid Detergent, Crucible (%)	19	17	5.0214	0.66669	0.49697	0.12149	0.51160	10.06%	2.460%	10.36%	4.2110
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	38	35	5.2915	0.71565	0.60674	0.20339	0.63992	11.65%	3.905%	12.29%	3.1463
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	16	15	10.870	1.1355	1.1182	0.27891	1.1525	10.29%	2.566%	10.60%	4.1321
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	39	38	10.634	1.1159	1.0932	0.31675	1.1381	10.28%	2.979%	10.70%	3.5933
010.99	Moisture, Miscellaneous (%)	20	19	8.4555	0.78660	0.64013	0.06688	0.64361	7.48%	0.781%	7.52%	9.6230
011.01	Loss on Drying, 135°C 2hr (%)	66	60	9.1380	0.41603	0.30972	0.07850	0.31951	3.38%	0.857%	3.49%	4.0701
012.00	Starch, Polarimetric (Ewers) (%)	19	16	31.265	0.90194	0.73815	0.09315	0.74401	2.37%	0.299%	2.39%	7.9873
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	9	9	27.828	4.4644	4.4297	0.78586	4.4988	15.92%	2.824%	16.17%	5.7248
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	19	19	4.2204	0.46310	0.44557	0.17850	0.47999	10.56%	4.229%	11.37%	2.6891
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	18	17	4.8720	0.40546	0.24202	0.16743	0.29429	4.89%	3.386%	5.95%	1.7577
019.00	Calcium, Ox-Mn04 Vol. (%)	14	14	4.0049	0.12558	0.12376	0.03017	0.12738	3.09%	0.753%	3.18%	4.2225
019.08	Calcium, EDTA (%)	9	9	4.0503	0.12299	0.11192	0.07214	0.13315	2.76%	1.781%	3.29%	1.8457
019.31	Calcium, AAS, Dry ash (%)	25	23	4.0672	0.19675	0.19668	0.05959	0.20551	4.83%	1.465%	5.05%	3.4486
019.41	Calcium, ICP, Dry ash (%)	29	28	4.0289	0.20268	0.19239	0.09016	0.21247	4.78%	2.238%	5.27%	2.3566
019.42	Calcium, ICP, Open vessel (%)	19	18	4.1243	0.32086	0.31449	0.08998	0.32711	7.63%	2.182%	7.93%	3.6352
019.43	Calcium, ICP, Microwave (%)	29	27	3.9972	0.24725	0.23222	0.06221	0.24041	5.79%	1.550%	5.99%	3.8646
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	18	16	182.71	15.673	10.153	3.3813	10.701	5.47%	1.822%	5.77%	3.1647
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	21	175.22	11.932	11.024	6.7973	12.951	6.31%	3.889%	7.41%	1.9054

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
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	20	17	200.65	20.692	9.1271	5.7979	10.813	4.55%	2.890%	5.39%	1.8650
022.43	Copper, ICP, Microwave (mg / kg (ppm))	25	23	201.91	14.481	11.278	7.7870	13.705	5.64%	3.891%	6.85%	1.7600
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	19	16	1,194.7	80.378	81.642	21.256	84.364	6.83%	1.779%	7.06%	3.9690
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	23	21	1,158.4	131.10	105.55	30.784	109.95	8.98%	2.620%	9.36%	3.5715
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	16	13	1,019.9	301.79	205.81	25.046	207.33	19.14%	2.330%	19.29%	8.2780
025.43	Iron, ICP, Microwave (mg / kg (ppm))	24	22	1,155.2	121.54	93.695	34.875	99.975	7.98%	2.970%	8.51%	2.8667
027.31	Magnesium, AAS, Dry ash (%)	14	12	0.21600	0.01874	0.01271	0.00418	0.01338	5.99%	1.970%	6.31%	3.2006
027.41	Magnesium, ICP, Dry ash (%)	24	23	0.21733	0.01661	0.01114	0.00710	0.01321	5.18%	3.302%	6.14%	1.8612
027.42	Magnesium, ICP, Open vessel (%)	19	18	0.21614	0.01745	0.01216	0.01146	0.01671	5.69%	5.359%	7.81%	1.4580
027.43	Magnesium, ICP, Microwave (%)	24	23	0.21237	0.01075	0.00987	0.00603	0.01157	4.65%	2.838%	5.45%	1.9193
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	18	15	182.40	8.7883	5.8987	2.3722	6.3579	3.20%	1.285%	3.44%	2.6802
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	22	20	181.25	33.530	13.345	3.8918	13.901	7.65%	2.230%	7.96%	3.5720
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	20	18	181.38	12.170	11.533	5.4998	12.777	6.36%	3.033%	7.05%	2.3233
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	25	23	180.93	9.8246	6.6662	6.8887	9.5860	3.71%	3.832%	5.33%	1.3916
031.01	Phosphorus, Photometric (%)	49	46	1.1366	0.04629	0.04014	0.01766	0.04385	3.52%	1.549%	3.85%	2.4833
031.41	Phosphorus, ICP, Dry ash (%)	28	24	1.1475	0.07822	0.05915	0.02430	0.06394	5.16%	2.121%	5.58%	2.6317
031.42	Phosphorus, ICP, Open vessel (%)	19	19	1.1248	0.07206	0.06621	0.04023	0.07747	5.89%	3.577%	6.89%	1.9256
031.43	Phosphorus, ICP, Microwave (%)	28	27	1.1421	0.06440	0.05114	0.03195	0.06030	4.45%	2.782%	5.25%	1.8874
032.31	Potassium, AAS, Dry ash (%)	15	13	0.90393	0.08036	0.05640	0.01280	0.05783	6.13%	1.392%	6.29%	4.5182
032.41	Potassium, ICP, Dry ash (%)	25	24	0.90560	0.04890	0.03152	0.02013	0.03740	3.51%	2.240%	4.16%	1.8578
032.42	Potassium, ICP, Open vessel (%)	18	17	0.92983	0.04966	0.04917	0.00986	0.05015	5.29%	1.060%	5.39%	5.0861
032.43	Potassium, ICP, Microwave (%)	24	24	0.92124	0.03453	0.03202	0.01827	0.03687	3.48%	1.983%	4.00%	2.0180
033.00	Salt as chloride, Sol Cl (%)	26	24	1.8906	0.27519	0.15148	0.02924	0.15428	7.81%	1.506%	7.95%	5.2769
033.01	Salt as chloride, Poten Cl (%)	31	28	2.0238	0.07279	0.05168	0.01452	0.05368	2.54%	0.713%	2.63%	3.6971
033.99	Salt, Miscellaneous (%)	9	8	1.9152	0.25156	0.13075	0.06415	0.14564	6.58%	3.229%	7.33%	2.2702
035.31	Sodium, AAS, Dry ash (%)	19	18	0.71598	0.05146	0.04990	0.01775	0.05297	6.97%	2.479%	7.40%	2.9838
035.41	Sodium, ICP, Dry ash (%)	25	25	0.72214	0.02984	0.02681	0.01852	0.03259	3.71%	2.565%	4.51%	1.7596
035.42	Sodium, ICP, Open vessel (%)	17	16	0.73480	0.05635	0.03709	0.03220	0.04912	5.11%	4.436%	6.77%	1.5255
035.43	Sodium, ICP, Microwave (%)	23	22	0.72862	0.04245	0.04028	0.01770	0.04399	5.54%	2.436%	6.06%	2.4862
036.42	Sulfur, ICP, Open vessel (%)	19	17	0.29908	0.03324	0.02577	0.00646	0.02657	8.77%	2.199%	9.04%	4.1103
036.43	Sulfur, ICP, Microwave (%)	13	13	0.29622	0.02869	0.02787	0.00958	0.02947	9.41%	3.234%	9.95%	3.0767
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	18	16	630.06	79.961	40.129	18.898	44.356	6.17%	2.906%	6.82%	2.3472
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	22	22	622.39	43.441	41.272	19.172	45.507	6.63%	3.080%	7.31%	2.3736
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	18	15	622.96	57.194	58.912	20.442	62.358	9.43%	3.271%	9.98%	3.0505
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	24	22	632.95	62.366	41.817	16.739	45.043	6.71%	2.685%	7.23%	2.6909
106.02	Vitamin A, LC (KU / kg)	21	19	27.504	8.0525	4.0852	3.4534	5.3493	16.09%	13.600%	21.07%	1.5490
109.02	Vitamin E, LC (IU / kg)	17	16	116.50	28.943	19.341	5.2295	20.036	15.88%	4.294%	16.45%	3.8313
120.00	Alanine, Post-col Ninhydrin Der (%)	22	20	0.93064	0.05256	0.02933	0.01285	0.03202	3.19%	1.398%	3.48%	2.4916
121.00	Arginine, Post-col Ninhydrin Der (%)	22	19	1.1822	0.05204	0.03402	0.01691	0.03800	2.87%	1.424%	3.20%	2.2465
122.00	Aspartic, Post-col Ninhydrin Der (%)	22	20	1.8649	0.08705	0.04264	0.02223	0.04808	2.31%	1.206%	2.61%	2.1634
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	22	21	0.29647	0.01773	0.01704	0.00691	0.01839	5.75%	2.329%	6.20%	2.6628
125.00	Glutamic, Post-col Ninhydrin Der (%)	22	21	3.3557	0.19395	0.16543	0.03452	0.16899	4.96%	1.036%	5.07%	4.8952
126.00	Glycine, Post-col Ninhydrin Der (%)	22	20	0.79037	0.02704	0.01910	0.00981	0.02147	2.43%	1.247%	2.73%	2.1895

Test Material Code # 201822

Issue Date : 03/31/2018

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
127.00	Histidine, Post-col Ninhydrin Der (%)	22	21	0.48840	0.03979	0.01574	0.00963	0.01846	3.28%	2.004%	3.84%	1.9159
128.00	Isoleucine, Post-col Ninhydrin Der (%)	22	21	0.74423	0.04764	0.03137	0.01194	0.03357	4.17%	1.588%	4.46%	2.8107
129.00	Leucine, Post-col Ninhydrin Der (%)	22	20	1.5186	0.04964	0.03551	0.01364	0.03804	2.35%	0.904%	2.52%	2.7897
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	20	1.0768	0.04079	0.02119	0.01117	0.02395	1.96%	1.031%	2.21%	2.1445
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	22	20	0.26836	0.02252	0.01924	0.00627	0.02024	7.10%	2.316%	7.47%	3.2257
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	22	21	0.89459	0.05782	0.02964	0.01317	0.03243	3.35%	1.489%	3.67%	2.4632
133.00	Proline, Post-col Ninhydrin Der (%)	22	22	1.0797	0.06640	0.06480	0.02046	0.06796	6.00%	1.895%	6.29%	3.3209
134.00	Serine, Post-col Ninhydrin Der (%)	22	21	0.90495	0.05450	0.04204	0.01373	0.04422	4.61%	1.505%	4.85%	3.2210
135.00	Threonine, Post-col Ninhydrin Der (%)	22	21	0.71473	0.03908	0.02721	0.00906	0.02868	3.84%	1.279%	4.05%	3.1647
137.99	Tyrosine, Miscellaneous (%)	12	10	0.58233	0.10987	0.08374	0.01760	0.08557	14.86%	3.124%	15.19%	4.8618
138.00	Valine, Post-col Ninhydrin Der (%)	21	20	0.85572	0.03672	0.02733	0.01599	0.03167	3.21%	1.879%	3.72%	1.9806
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	9	8	80.076	12.787	13.220	3.5930	13.700	16.36%	4.446%	16.95%	3.8129

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