



AAFCO
Proficiency Testing Program



Animal Feed Scheme
Swine Feed, Medicated
Test Material Code # 202032

Method Summary Report
(Precision Report Follows)

Labs Reporting: 174
Methods Reported: 396
Issue Date : 01/31/2021

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	0.4500							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	45	44	9.262	0.2925	9.268	0.2308	0.0435	2.49%	0.1008	2.86%
001.99	Loss on Drying, Miscellaneous (%)	22	21	8.796	0.7324	8.903	0.5221	0.1424	5.86%	0.1314	2.88%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	9.266	0.0900	9.266	0.0900	0.0520	0.97%	0.0503	2.86%
001.03	Loss on Drying, Low temp. methods (%)	2	2	9.433	0.3217						
001.05	Loss on Drying, LECO (%)	2	2	9.425	0.4176						
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	118	115	15.74	0.4334	15.71	0.2856	0.0333	1.82%	0.2177	2.52%
002.05	Protein, Crude, Copper, Boric Acid (%)	23	22	15.40	0.1851	15.40	0.2068	0.0551	1.34%	0.1491	2.55%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	13	13	15.64	0.2591	15.62	0.2440	0.0846	1.56%	0.1435	2.53%
002.11	Protein, Crude, NIR (%)	7	7	16.10	0.7407	16.10	0.8400	0.3969	5.22%	0.1286	2.49%
002.00	Protein, Crude, Crude (%)	2	2	15.64	0.2121						
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	2	2	15.39	0.1751						
002.03	Protein, Crude, Hach Method (%)	1	1	14.55							
002.04	Protein, Crude, Copper Catalyst (%)	1	1	15.72							
002.08	Protein, Crude, Cu/Ti (%)	1	1	15.61							
003.14	Fat, Crude, Ankom (%)	52	52	1.903	0.3275	1.904	0.3334	0.0578	17.51%	0.0891	3.63%
003.10	Fat, Crude, Randall, Pet Ether (%)	30	29	2.140	0.3249	2.140	0.2521	0.0585	11.78%	0.1784	3.57%
003.06	Fat, Crude, Pet Ether (%)	15	15	2.316	0.4780	2.286	0.2400	0.0775	10.50%	0.0741	3.53%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	12	12	2.295	0.2736	2.273	0.2554	0.0922	11.23%	0.1571	3.53%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	9	9	2.368	0.3969	2.375	0.4337	0.1807	18.26%	0.1070	3.51%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	7	7	2.199	0.2275	2.171	0.1898	0.0897	8.74%	0.0505	3.56%
003.11	Fat, Crude, NIR (%)	6	6	2.763	0.4585	2.763	0.5199	0.2653	18.82%	0.0617	3.43%
003.12	Fat, Crude, Hexane Ext (%)	5	4	2.165	0.5105	2.165	0.5105	0.2553	23.58%	0.0400	3.56%
003.99	Fat, Crude, Miscellaneous (%)	3	3	2.028	0.2972	2.028	0.2972	0.1716	14.65%	0.1567	3.60%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	2.560							
004.07	Fiber, Crude, ANKOM (%)	66	65	4.018	0.5946	3.988	0.5301	0.0822	13.29%	0.1843	3.25%
004.06	Fiber, Crude, Fibertec (%)	17	17	3.994	0.3331	3.969	0.3131	0.0949	7.89%	0.0966	3.25%
004.00	Fiber, Crude, Asbestos Free (%)	14	12	3.927	0.2705	3.927	0.3068	0.1107	7.81%	0.0997	3.26%
004.03	Fiber, Crude, Fritted Glass (%)	6	6	3.738	0.4886	3.738	0.5541	0.2828	14.83%	0.0850	3.28%

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004.11	Fiber, Crude, NIR (%)	6	6	4.415	0.7478	4.415	0.8480	0.4327	19.21%	0.0767	3.20%
004.01	Fiber, Crude, Sing Filt (%)	2	2	3.430	0.2546						
004.99	Fiber, Crude, Miscellaneous (%)	1	1	3.774							
005.00	Ash, 2h @ 600°C (%)	88	88	11.51	0.4724	11.52	0.4842	0.0645	4.20%	0.1478	2.77%
005.05	Ash, 3h @ 550°C (%)	25	23	11.97	0.3863	12.02	0.3069	0.0800	2.55%	0.1172	2.75%
005.99	Ash, Miscellaneous (%)	10	9	11.81	0.7768	11.91	0.6215	0.2590	5.22%	0.1144	2.75%
005.11	Ash, NIR (%)	5	5	8.301	2.018	8.301	2.018	0.9024	24.31%	0.2460	2.91%
005.02	Ash, LECO (%)	2	2	12.00	0.3094						
005.03	Ash, Microwave furnace (%)	1	1	11.30							
006.00	Total Sugars, As sucrose (%)	4	3	4.317	0.0617	4.317	0.0617	0.0356	1.43%	0.0733	3.21%
006.99	Total Sugars, Miscellaneous (%)	3	3	4.300	0.9500	4.300	0.9500	0.5485	22.09%	0.2667	3.21%
006.01	Total Sugars, Mod. Fehling Soln (%)	1	1	1.220							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	41	5.300	0.4479	5.261	0.3258	0.0636	6.19%	0.1928	3.12%
008.02	Fiber, Acid Detergent, Crucible (%)	12	11	5.224	0.3480	5.226	0.3894	0.1468	7.45%	0.2120	3.12%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	6	6	5.616	1.046	5.611	1.173	0.5986	20.91%	0.2053	3.09%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	6.230							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	39	39	13.53	0.8992	13.43	0.6282	0.1257	4.68%	0.2724	2.71%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	13	13	14.08	0.9746	14.13	0.9986	0.3462	7.07%	0.4092	2.66%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	5	4	14.54	0.4240	14.54	0.4240	0.2120	2.92%	0.6825	2.62%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	26.38							
010.99	Moisture, Miscellaneous (%)	17	16	9.365	0.3139	9.367	0.3522	0.1101	3.76%	0.1268	2.86%
010.11	Moisture, NIR (%)	6	6	10.04	1.037	10.04	1.176	0.6003	11.72%	0.0467	2.83%
010.03	Moisture, Karl-Fischer (%)	2	2	8.998	0.0248						
011.01	Loss on Drying, 135°C 2hr (%)	64	63	9.879	0.3663	9.891	0.3524	0.0555	3.56%	0.0900	2.83%
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	3	3	9.841	0.5115	9.841	0.5115	0.2953	5.20%	0.1723	2.84%
011.02	Loss on Drying, 130°C for 2 hours (%)	1	1	9.700							
012.00	Starch, Polarimetric (Ewers) (%)	12	12	37.24	3.177	37.99	0.8554	0.3086	2.25%	0.3092	1.62%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	11	36.01	4.359	36.64	2.837	1.069	7.74%	0.7141	1.65%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	5	37.06	1.345	37.06	1.345	0.6015	3.63%	0.5284	1.64%
012.11	Starch, NIR (%)	4	4	40.60	2.716	40.60	2.716	1.358	6.69%	0.2175	1.57%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	3	3	38.50	1.262	38.50	1.262	0.8922	3.28%	0.4503	1.61%
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	35.97							
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	21	20	2.971	0.4957	2.971	0.5604	0.1566	18.86%	0.1072	3.40%
013.02	Fat, Acid Pretreat, Mojonniier, Bak Ext (%)	19	19	3.414	0.5661	3.393	0.4600	0.1319	13.56%	0.1273	3.33%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	7	6	3.602	0.5451	3.602	0.6182	0.3155	17.16%	0.1514	3.30%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	5	5	2.996	0.1502	2.996	0.1502	0.0672	5.01%	0.1021	3.39%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	1.515							
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	2.850							
015.43	Aluminum, ICP, Microwave (ppm)	9	9	183.8	26.15	181.2	23.16	9.651	12.78%	8.669	7.31%
015.41	Aluminum, ICP, Dry ash (ppm)	4	4	157.6	17.26	157.6	17.26	8.632	10.95%	3.672	7.47%

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015.42	Aluminum, ICP, Open vessel (ppm)	2	2	125.8	8.365						
015.53	Aluminum, ICP-MS, Microwave (ppm)	2	2	177.3	24.97						
015.52	Aluminum, ICP-MS, Open vessel (ppm)	1	1	131.6							
017.42	Boron, ICP, Open vessel (ppm)	6	6	7.069	1.060	6.854	0.6592	0.3364	9.62%	0.3700	11.97%
017.43	Boron, ICP, Microwave (ppm)	7	6	8.437	1.519	8.437	1.723	0.8791	20.42%	0.3169	11.60%
017.41	Boron, ICP, Dry ash (ppm)	5	5	7.341	1.078	7.341	1.078	0.4820	14.68%	0.8026	11.85%
017.53	Boron, ICP-MS, Microwave (ppm)	2	2	6.640	0.8272						
019.43	Calcium, ICP, Microwave (%)	28	28	2.791	0.2017	2.789	0.2016	0.0476	7.23%	0.0872	3.43%
019.41	Calcium, ICP, Dry ash (%)	23	23	2.793	0.2094	2.792	0.1795	0.0468	6.43%	0.0944	3.43%
019.42	Calcium, ICP, Open vessel (%)	19	18	2.831	0.2146	2.841	0.1999	0.0589	7.04%	0.0881	3.42%
019.31	Calcium, AAS, Dry ash (%)	13	12	2.773	0.1273	2.770	0.1059	0.0382	3.82%	0.0421	3.43%
019.08	Calcium, EDTA (%)	9	8	2.811	0.1217	2.811	0.1380	0.0610	4.91%	0.0308	3.42%
019.00	Calcium, Ox-Mn04 Vol. (%)	6	5	2.875	0.1564	2.875	0.1564	0.0875	5.44%	0.0220	3.41%
019.52	Calcium, ICP-MS, Open vessel (%)	5	5	2.720	0.3290	2.720	0.3290	0.1471	12.10%	0.0482	3.44%
019.53	Calcium, ICP-MS, Microwave (%)	5	5	2.686	0.1193	2.686	0.1193	0.0533	4.44%	0.1408	3.45%
019.99	Calcium, Miscellaneous (%)	5	5	2.755	0.3724	2.755	0.3724	0.1665	13.52%	0.0180	3.43%
019.02	Calcium, Hach Method (%)	1	1	2.440							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	2.828							
019.09	Calcium, Ion-selective electrode (%)	1	1	3.210							
019.32	Calcium, AAS, Open vessel (%)	1	1	2.855							
019.33	Calcium, AAS, Microwave (%)	1	1	2.905							
019.44	Calcium, ICP, Dry ash (%)	1	1	2.700							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	2.880							
021.43	Cobalt, ICP, Microwave (ppm)	9	8	2.440	0.5796	2.552	0.3544	0.1566	13.89%	0.0893	13.89%
021.41	Cobalt, ICP, Dry ash (ppm)	5	5	2.445	0.4962	2.445	0.4962	0.2219	20.29%	0.2624	13.98%
021.52	Cobalt, ICP-MS, Open vessel (ppm)	5	5	2.174	0.2794	2.174	0.2794	0.1249	12.85%	0.2400	14.23%
021.53	Cobalt, ICP-MS, Microwave (ppm)	4	4	2.580	0.2204	2.580	0.2204	0.1102	8.54%	0.4139	13.87%
021.31	Cobalt, AAS, Dry ash (ppm)	3	3	2.347	0.9545	2.347	0.9545	0.5511	40.67%	0.0600	14.07%
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	2.098	0.7036						
022.43	Copper, ICP, Microwave (ppm)	25	24	102.0	6.166	101.5	5.683	1.450	5.60%	4.184	7.98%
022.42	Copper, ICP, Open vessel (ppm)	20	20	104.4	7.471	104.4	7.774	2.173	7.45%	4.303	7.95%
022.41	Copper, ICP, Dry ash (ppm)	17	16	94.31	6.031	94.18	6.183	1.932	6.57%	2.868	8.07%
022.31	Copper, AAS, Dry ash (ppm)	12	12	100.0	11.25	98.44	5.685	2.051	5.77%	2.357	8.02%
022.53	Copper, ICP-MS, Microwave (ppm)	6	6	97.63	7.816	97.63	8.864	4.523	9.08%	4.322	8.03%
022.52	Copper, ICP-MS, Open vessel (ppm)	4	4	97.22	5.882	97.22	5.882	2.941	6.05%	13.54	8.03%
022.33	Copper, AAS, Microwave (ppm)	2	2	100.2	13.24						
022.44	Copper, ICP, Dry ash (ppm)	2	2	100.7	9.458						
022.99	Copper, Miscellaneous (ppm)	2	2	106.0	17.68						
024.52	Iodine, ICP-MS, Open vessel (ppm)	1	1	5.377							
024.53	Iodine, ICP-MS, Microwave (ppm)	1	1	6.425							

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025.43	Iron, ICP, Microwave (ppm)	24	24	798.2	183.2	831.8	94.49	24.11	11.36%	29.84	5.82%
025.41	Iron, ICP, Dry ash (ppm)	19	19	799.8	83.58	803.3	86.87	24.91	10.81%	16.31	5.85%
025.42	Iron, ICP, Open vessel (ppm)	16	15	735.8	186.6	772.1	121.3	39.15	15.71%	41.09	5.88%
025.31	Iron, AAS, Dry ash (ppm)	12	11	837.3	54.31	844.5	42.21	15.91	5.00%	13.21	5.80%
025.53	Iron, ICP-MS, Microwave (ppm)	5	4	865.1	43.72	865.1	43.72	21.86	5.05%	10.34	5.78%
025.99	Iron, Miscellaneous (ppm)	3	3	839.6	73.63	839.6	73.63	42.51	8.77%	31.13	5.81%
025.52	Iron, ICP-MS, Open vessel (ppm)	2	2	456.8	77.38						
027.43	Magnesium, ICP, Microwave (%)	24	22	0.2783	0.0176	0.2775	0.0145	0.0039	5.22%	0.0061	4.85%
027.42	Magnesium, ICP, Open vessel (%)	20	20	0.2841	0.0151	0.2847	0.0140	0.0039	4.90%	0.0147	4.83%
027.41	Magnesium, ICP, Dry ash (%)	17	17	0.2799	0.0170	0.2805	0.0177	0.0054	6.31%	0.0065	4.84%
027.31	Magnesium, AAS, Dry ash (%)	10	9	0.2933	0.0237	0.2891	0.0155	0.0065	5.36%	0.0036	4.82%
027.52	Magnesium, ICP-MS, Open vessel (%)	5	5	0.2701	0.0235	0.2701	0.0235	0.0105	8.70%	0.0055	4.87%
027.53	Magnesium, ICP-MS, Microwave (%)	5	5	0.2783	0.0131	0.2783	0.0131	0.0058	4.69%	0.0079	4.85%
027.99	Magnesium, Miscellaneous (%)	4	4	0.2750	0.0474	0.2750	0.0474	0.0237	17.25%	0.0050	4.86%
027.33	Magnesium, AAS, Microwave (%)	2	2	0.3010	0.0057						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.2650							
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.3055							
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.2660							
028.43	Manganese, ICP, Microwave (ppm)	25	23	232.2	12.94	232.5	14.14	3.685	6.08%	7.684	7.05%
028.42	Manganese, ICP, Open vessel (ppm)	20	19	241.5	20.03	241.4	19.73	5.657	8.17%	12.68	7.01%
028.41	Manganese, ICP, Dry ash (ppm)	16	16	217.4	33.25	220.8	28.19	8.810	12.77%	5.836	7.10%
028.31	Manganese, AAS, Dry ash (ppm)	11	11	225.4	17.49	226.4	17.37	6.545	7.67%	5.559	7.07%
028.53	Manganese, ICP-MS, Microwave (ppm)	6	6	224.0	22.76	224.0	25.81	13.17	11.52%	7.388	7.08%
028.52	Manganese, ICP-MS, Open vessel (ppm)	4	4	226.4	25.62	226.4	25.62	12.81	11.32%	9.775	7.07%
028.99	Manganese, Miscellaneous (ppm)	3	3	238.2	15.51	238.2	15.51	8.956	6.51%	10.43	7.02%
028.44	Manganese, ICP, Dry ash (ppm)	2	2	221.1	9.723						
028.33	Manganese, AAS, Microwave (ppm)	1	1	181.1							
028.34	Manganese, AAS, Dry ash (ppm)	1	1	248.9							
031.01	Phosphorus, Photometric (%)	28	28	0.9937	0.0471	0.9967	0.0408	0.0096	4.09%	0.0183	4.00%
031.43	Phosphorus, ICP, Microwave (%)	28	28	1.022	0.0539	1.017	0.0388	0.0092	3.81%	0.0328	3.99%
031.41	Phosphorus, ICP, Dry ash (%)	22	21	1.007	0.0520	1.008	0.0544	0.0148	5.40%	0.0234	3.99%
031.42	Phosphorus, ICP, Open vessel (%)	19	19	1.010	0.0683	1.015	0.0624	0.0179	6.15%	0.0531	3.99%
031.53	Phosphorus, ICP-MS, Microwave (%)	5	5	0.9706	0.0438	0.9706	0.0438	0.0196	4.51%	0.0729	4.02%
031.99	Phosphorus, Miscellaneous (%)	5	5	0.8896	0.1666	0.8896	0.1666	0.0745	18.73%	0.0327	4.07%
031.03	Phosphorus, Autoanalyzer (%)	3	3	1.036	0.0537	1.036	0.0537	0.0310	5.18%	0.0114	3.98%
031.52	Phosphorus, ICP-MS, Open vessel (%)	3	3	0.9565	0.0738	0.9565	0.0738	0.0426	7.72%	0.0337	4.03%
031.44	Phosphorus, ICP, Dry ash (%)	2	2	1.017	0.0092						
031.06	Phosphorus, Hach Method (%)	1	1	0.9900							
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	0.9900							
032.43	Potassium, ICP, Microwave (%)	24	24	0.8639	0.0529	0.8623	0.0487	0.0124	5.65%	0.0222	4.09%

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032.41	Potassium, ICP, Dry ash (%)	19	19	0.8423	0.0468	0.8442	0.0367	0.0105	4.35%	0.0237	4.10%
032.42	Potassium, ICP, Open vessel (%)	18	17	0.8730	0.0636	0.8694	0.0353	0.0107	4.06%	0.0261	4.08%
032.31	Potassium, AAS, Dry ash (%)	8	8	0.8817	0.1524	0.8636	0.1277	0.0565	14.79%	0.0153	4.09%
032.52	Potassium, ICP-MS, Open vessel (%)	5	5	0.8075	0.0276	0.8075	0.0276	0.0123	3.42%	0.0191	4.13%
032.53	Potassium, ICP-MS, Microwave (%)	5	5	0.7946	0.0551	0.7946	0.0551	0.0247	6.94%	0.0379	4.14%
032.99	Potassium, Miscellaneous (%)	4	4	0.8602	0.0285	0.8602	0.0285	0.0143	3.31%	0.0083	4.09%
032.32	Potassium, AAS, Open vessel (%)	1	1	0.7050							
032.44	Potassium, ICP, Dry ash (%)	1	1	0.8355							
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	0.8450							
033.01	Salt as chloride, Poten Cl (%)	28	27	2.032	0.0852	2.025	0.0366	0.0088	1.81%	0.0214	3.60%
033.00	Salt as chloride, Sol Cl (%)	21	20	1.997	0.0577	1.998	0.0594	0.0166	2.97%	0.0519	3.60%
033.99	Salt, Miscellaneous (%)	11	10	1.910	0.1778	1.933	0.1403	0.0555	7.26%	0.0350	3.62%
033.03	Salt as chloride, Quantab (%)	5	5	1.970	0.1015	1.970	0.1015	0.0454	5.15%	0.0880	3.61%
033.05	Salt as chloride, Ion Sel Electrode (%)	1	1	1.945							
034.53	Selenium, ICP-MS, Microwave (ppm)	8	7	2.644	0.1864	2.644	0.2114	0.0999	8.00%	0.1478	13.82%
034.43	Selenium, ICP, Microwave (ppm)	5	4	2.125	0.7612	2.125	0.7612	0.3806	35.82%	0.1713	14.28%
034.52	Selenium, ICP-MS, Open vessel (ppm)	4	4	2.462	0.2351	2.462	0.2351	0.1176	9.55%	0.1660	13.97%
034.04	Selenium, AA, Hydride (ppm)	3	3	2.493	0.1561	2.493	0.1561	0.0901	6.26%	0.2200	13.94%
034.41	Selenium, ICP, Dry ash (ppm)	3	3	2.472	0.1358	2.472	0.1358	0.0784	5.49%	0.2767	13.96%
034.42	Selenium, ICP, Open vessel (ppm)	1	1	3.000							
034.99	Selenium, Miscellaneous (ppm)	1	1	3.120							
035.43	Sodium, ICP, Microwave (%)	22	22	0.7295	0.0460	0.7314	0.0378	0.0101	5.16%	0.0135	4.19%
035.41	Sodium, ICP, Dry ash (%)	21	21	0.7101	0.0484	0.7112	0.0300	0.0082	4.22%	0.0191	4.21%
035.42	Sodium, ICP, Open vessel (%)	18	18	0.7382	0.0423	0.7415	0.0402	0.0118	5.42%	0.0286	4.18%
035.31	Sodium, AAS, Dry ash (%)	10	10	0.7133	0.0480	0.7133	0.0544	0.0215	7.63%	0.0112	4.21%
035.53	Sodium, ICP-MS, Microwave (%)	5	5	0.7109	0.0624	0.7109	0.0624	0.0279	8.78%	0.0438	4.21%
035.52	Sodium, ICP-MS, Open vessel (%)	3	3	0.7021	0.0239	0.7021	0.0239	0.0138	3.40%	0.0228	4.22%
035.99	Sodium, Miscellaneous (%)	3	3	0.5300	0.3579	0.5300	0.3579			0.0000	4.40%
035.01	Sodium, Ion-selective electrode (%)	1	1	0.7970							
035.05	Sodium, Flame Emission (%)	1	1	0.7100							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.6400							
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.7300							
036.42	Sulfur, ICP, Open vessel (%)	21	21	0.3438	0.0256	0.3415	0.0231	0.0063	6.75%	0.0124	4.70%
036.43	Sulfur, ICP, Microwave (%)	17	17	0.3589	0.0262	0.3582	0.0254	0.0077	7.10%	0.0123	4.67%
036.04	Sulfur, LECO (%)	3	3	0.2797	0.0333	0.2797	0.0333	0.0192	11.91%	0.0127	4.85%
036.52	Sulfur, ICP-MS, Open vessel (%)	3	3	0.3509	0.0339	0.3509	0.0339	0.0196	9.65%	0.0180	4.68%
036.99	Sulfur, Miscellaneous (%)	2	2	0.2975	0.0106						
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.3420							
037.43	Zinc, ICP, Microwave (ppm)	25	23	544.3	31.17	545.9	30.51	7.951	5.59%	11.84	6.20%
037.41	Zinc, ICP, Dry ash (ppm)	17	17	516.1	51.18	522.1	38.46	11.66	7.37%	12.21	6.24%

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037.42	Zinc, ICP, Open vessel (ppm)	18	17	540.7	50.78	536.9	45.79	13.88	8.53%	24.12	6.21%
037.31	Zinc, AAS, Dry ash (ppm)	12	12	499.0	135.3	533.4	30.04	10.84	5.63%	5.028	6.22%
037.53	Zinc, ICP-MS, Microwave (ppm)	5	5	536.1	49.15	536.1	49.15	21.98	9.17%	39.74	6.21%
037.52	Zinc, ICP-MS, Open vessel (ppm)	4	4	523.6	54.98	523.6	54.98	27.49	10.50%	1.695	6.23%
037.99	Zinc, Miscellaneous (ppm)	3	3	525.9	86.20	525.9	86.20	49.77	16.39%	13.81	6.23%
037.33	Zinc, AAS, Microwave (ppm)	2	2	575.6	0.8804						
037.44	Zinc, ICP, Dry ash (ppm)	2	2	523.7	5.876						
037.51	Zinc, ICP-MS, Dry ash (ppm)	1	1	566.5							
038.43	Molybdenum, ICP, Microwave (ppm)	9	9	2.005	0.2039	2.005	0.2313	0.0964	11.53%	0.0401	14.41%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	5	5	2.193	0.1587	2.193	0.1587	0.0710	7.24%	0.0631	14.21%
038.42	Molybdenum, ICP, Open vessel (ppm)	4	4	2.769	1.238	2.769	1.238	0.6191	44.72%	0.2098	13.72%
038.41	Molybdenum, ICP, Dry ash (ppm)	3	3	1.857	0.0438	1.857	0.0438	0.0253	2.36%	0.0190	14.57%
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	2	2	1.988	0.0106						
040.53	Barium, ICP-MS, Microwave (ppm)	2	2	7.967	0.4150						
040.52	Barium, ICP-MS, Open vessel (ppm)	1	1	8.045							
041.53	Vanadium, ICP-MS, Microwave (ppm)	2	2	2.511	0.0689						
042.00	Chloride, Titrimetric (%)	6	6	1.268	0.0926	1.252	0.0651	0.0332	5.20%	0.0250	3.87%
042.99	Chloride, Miscellaneous (%)	3	3	1.245	0.0527	1.245	0.0527	0.0373	4.23%	0.0167	3.87%
042.01	Chloride, Ion-selective electrode (%)	1	1	1.065							
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	2,430							
102.02	Niacin, LC (ppm)	2	2	53.40	17.11						
102.01	Niacin, Microbiological (ppm)	1	1	96.30							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	33.30							
103.02	Pantothenic Acid, LC (ppm)	1	1	34.20							
104.03	Riboflavin, LC (ppm)	3	3	8.962	1.690	8.962	1.690	0.9760	18.86%	1.323	11.50%
104.00	Riboflavin, Fluorometric (ppm)	2	2	12.36	2.210						
105.00	Thiamine, LC (ppm)	1	1	2.275							
105.01	Thiamine, Fluorometer (ppm)	1	1	2.885							
106.02	Vitamin A, LC (KU / kg)	9	4	1.869	0.9102	1.869	0.9102	0.5689	48.71%	0.1625	
106.00	Vitamin A, Color (KU / kg)	1	1	1.610							
106.01	Vitamin A, UV (KU / kg)	1		0.8000							
107.00	Vitamin B12, Microbiological (ppb)	1	1	17.40							
108.02	Vitamin D3, LC (KU / kg)	4	3	2.558	0.0797	2.558	0.0797	0.0460	3.12%	1.083	
108.99	Vitamin D3, Miscellaneous (KU / kg)	1	1	2.450							
109.02	Vitamin E, LC (IU / kg)	8	8	47.72	5.927	48.02	6.033	2.666	12.56%	3.046	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	46.00							
111.00	Vitamin C, Phosphorylated, LC (ppm)	1		4.400							
112.01	Pyridoxine, LC (µg / g)	1	1	3.310							
113.01	Folic Acid, Micro (ppm)	1	1	0.8205							
114.01	Biotin, Microbiological (ppm)	1	1	0.2000							

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115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.5350							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	8.325							
120.00	Alanine, Post-col Ninhydrin Der (%)	19	18	0.7235	0.0451	0.7282	0.0402	0.0118	5.52%	0.0086	4.20%
120.05	Alanine, Pre-col AQC Der (%)	8	8	0.7113	0.0553	0.7113	0.0627	0.0277	8.81%	0.0099	4.21%
120.99	Alanine, Miscellaneous (%)	4	3	0.7300	0.0625	0.7300	0.0625			0.0000	4.19%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.7780							
121.00	Arginine, Post-col Ninhydrin Der (%)	19	19	0.9241	0.0584	0.9283	0.0565	0.0162	6.09%	0.0127	4.04%
121.05	Arginine, Pre-col AQC Der (%)	8	8	0.8461	0.1649	0.8611	0.1505	0.0665	17.48%	0.0209	4.09%
121.99	Arginine, Miscellaneous (%)	2	2	0.8475	0.0884						
121.02	Arginine, Post-col OPA Der (%)	1	1	0.9465							
122.00	Aspartic, Post-col Ninhydrin Der (%)	19	19	1.279	0.0673	1.283	0.0646	0.0185	5.03%	0.0214	3.85%
122.05	Aspartic, Pre-col AQC Der (%)	8	8	1.162	0.2325	1.194	0.1830	0.0809	15.33%	0.0350	3.89%
122.99	Aspartic, Miscellaneous (%)	4	4	1.306	0.1063	1.306	0.1063	0.0531	8.13%	0.0075	3.84%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.335							
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	19	18	0.2547	0.0238	0.2548	0.0256	0.0075	10.05%	0.0104	4.91%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	6	5	0.2432	0.0499	0.2432	0.0499	0.0080	20.50%	0.0024	4.95%
124.99	Cysteine/Cystine, Miscellaneous (%)	4	4	0.2475	0.0240	0.2475	0.0240	0.0120	9.69%	0.0100	4.94%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.2815							
125.00	Glutamic, Post-col Ninhydrin Der (%)	19	19	2.767	0.1696	2.786	0.1363	0.0391	4.89%	0.0336	3.43%
125.05	Glutamic, Pre-col AQC Der (%)	8	8	2.715	0.2268	2.758	0.1410	0.0623	5.11%	0.0640	3.43%
125.99	Glutamic, Miscellaneous (%)	4	4	2.616	0.2078	2.616	0.2078	0.1039	7.94%	0.0425	3.46%
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.845							
126.00	Glycine, Post-col Ninhydrin Der (%)	19	19	0.7400	0.0342	0.7397	0.0381	0.0109	5.16%	0.0151	4.19%
126.05	Glycine, Pre-col AQC Der (%)	8	7	0.7414	0.0442	0.7414	0.0501	0.0237	6.76%	0.0114	4.18%
126.99	Glycine, Miscellaneous (%)	4	3	0.7533	0.0153	0.7533	0.0153	0.0088	2.03%	0.0133	4.17%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.7720							
127.00	Histidine, Post-col Ninhydrin Der (%)	19	19	0.3803	0.0254	0.3779	0.0230	0.0066	6.07%	0.0094	4.63%
127.05	Histidine, Pre-col AQC Der (%)	8	8	0.3747	0.0508	0.3747	0.0576	0.0255	15.38%	0.0101	4.64%
127.99	Histidine, Miscellaneous (%)	4	4	0.3913	0.0189	0.3913	0.0189	0.0094	4.82%	0.0075	4.61%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.3885							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	19	18	0.5266	0.0646	0.5290	0.0676	0.0199	12.78%	0.0082	4.40%
128.05	Isoleucine, Pre-col AQC Der (%)	8	8	0.5403	0.0458	0.5403	0.0519	0.0230	9.61%	0.0151	4.39%
128.99	Isoleucine, Miscellaneous (%)	4	3	0.5500	0.0300	0.5500	0.0300			0.0000	4.38%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.5935							
129.00	Leucine, Post-col Ninhydrin Der (%)	19	19	1.103	0.0663	1.109	0.0586	0.0168	5.28%	0.0136	3.94%
129.05	Leucine, Pre-col AQC Der (%)	8	8	1.076	0.0441	1.076	0.0501	0.0221	4.65%	0.0284	3.96%
129.99	Leucine, Miscellaneous (%)	4	3	1.162	0.0375	1.162	0.0375	0.0265	3.23%	0.0033	3.91%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.157							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	21	21	0.6892	0.0398	0.6945	0.0270	0.0074	3.89%	0.0115	4.23%
130.05	L-Lysine, Pre-col AQC Der (%)	8	8	0.6814	0.0565	0.6829	0.0608	0.0268	8.90%	0.0261	4.24%

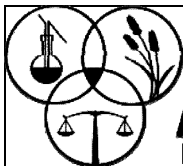
Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz % _{RSD}
130.99	L-Lysine, Miscellaneous (%)	4	3	0.7467	0.0104	0.7467	0.0104	0.0060	1.39%	0.0200	4.18%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.7445							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	20	20	0.2088	0.0268	0.2096	0.0283	0.0079	13.52%	0.0086	5.06%
131.05	Methionine, PAO Pre-col AQC Der (%)	7	7	0.2295	0.0519	0.2295	0.0589	0.0278	25.64%	0.0059	4.99%
131.99	Methionine, Miscellaneous (%)	4	4	0.2375	0.0126	0.2375	0.0126			0.0000	4.97%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2180							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	19	19	0.6585	0.0543	0.6650	0.0454	0.0130	6.82%	0.0132	4.25%
132.05	Phenylalanine, Pre-col AQC Der (%)	8	8	0.6463	0.0462	0.6463	0.0524	0.0231	8.10%	0.0199	4.27%
132.99	Phenylalanine, Miscellaneous (%)	4	4	0.6850	0.0294	0.6850	0.0294	0.0147	4.30%	0.0100	4.23%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.6880							
133.00	Proline, Post-col Ninhydrin Der (%)	18	17	0.9794	0.1222	0.9675	0.0494	0.0150	5.11%	0.0146	4.02%
133.05	Proline, Pre-col AQC Der (%)	8	8	0.9389	0.0905	0.9389	0.1026	0.0454	10.93%	0.0223	4.04%
133.99	Proline, Miscellaneous (%)	4	4	0.9600	0.0212	0.9600	0.0212	0.0106	2.21%	0.0100	4.02%
134.00	Serine, Post-col Ninhydrin Der (%)	19	18	0.6918	0.0495	0.6905	0.0355	0.0105	5.15%	0.0067	4.23%
134.05	Serine, Pre-col AQC Der (%)	8	8	0.6681	0.1101	0.6835	0.0854	0.0378	12.50%	0.0179	4.24%
134.99	Serine, Miscellaneous (%)	4	3	0.7017	0.0104	0.7017	0.0104	0.0060	1.48%	0.0100	4.22%
134.02	Serine, Post-col OPA Der (%)	1	1	0.6565							
135.00	Threonine, Post-col Ninhydrin Der (%)	19	19	0.5157	0.0300	0.5197	0.0224	0.0064	4.31%	0.0062	4.41%
135.05	Threonine, Pre-col AQC Der (%)	8	8	0.4963	0.0636	0.5091	0.0374	0.0165	7.35%	0.0109	4.43%
135.99	Threonine, Miscellaneous (%)	4	3	0.5200	0.0608	0.5200	0.0608			0.0000	4.41%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.5275							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	7	7	0.2015	0.0300	0.2015	0.0340	0.0161	16.88%	0.0044	5.09%
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	4	3	0.1843	0.0060	0.1843	0.0060	0.0035	3.27%	0.0038	5.16%
136.05	Tryptophan, Pre-col AQC Der (%)	3	3	0.1615	0.1018	0.1615	0.1018	0.0588	63.03%	0.0110	5.26%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	1	1	0.1885							
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.1800							
136.99	Tryptophan, Miscellaneous (%)	1	1	0.3700							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	14	14	0.4401	0.0707	0.4418	0.0710	0.0237	16.08%	0.0056	4.52%
137.05	Tyrosine, Pre-col AQC Der (%)	8	8	0.4289	0.0696	0.4289	0.0790	0.0349	18.41%	0.0103	4.54%
137.99	Tyrosine, Miscellaneous (%)	4	3	0.4467	0.0666	0.4467	0.0666			0.0000	4.52%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.4505							
138.00	Valine, Post-col Ninhydrin Der (%)	19	19	0.6551	0.0667	0.6622	0.0575	0.0165	8.68%	0.0136	4.26%
138.05	Valine, Pre-col AQC Der (%)	8	8	0.6509	0.0586	0.6574	0.0504	0.0223	7.67%	0.0219	4.26%
138.99	Valine, Miscellaneous (%)	4	3	0.6967	0.0029	0.6967	0.0029	0.0017	0.41%	0.0067	4.22%
138.02	Valine, Post-col OPA Der (%)	1	1	0.7330							
139.00	Taurine, Post-col Ninhydrin Der (%)	1	1	0.0810							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0032							
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
139.99	Taurine, Miscellaneous (%)	1		0.0100							
150.00	Phytase, Colorimetric (Units / kg)	3	3	605.1	528.0	605.1	528.0	304.8	87.26%	69.38	

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160.99	Fructose, Miscellaneous (%)	3	2	0.2013	0.1255	0.2013	0.1255			0.0385	5.09%
160.10	Fructose, HPAEC PAD (%)	1	1	0.1400							
161.10	Galactose, HPAEC PAD (%)	1		0.0000							
162.99	Glucose, Miscellaneous (%)	4	3	7.616	12.92	7.616	12.92	9.133	169.59%	0.2733	2.95%
162.10	Glucose, HPAEC PAD (%)	1	1	0.1725							
163.10	Lactose, HPAEC PAD (%)	1		0.0000							
163.99	Lactose, Miscellaneous (%)	2		0.0000							
164.10	Maltose, HPAEC PAD (%)	1	1	0.4550							
164.99	Maltose, Miscellaneous (%)	1		0.1500							
165.99	Sucrose, Miscellaneous (%)	3	2	1.840	0.0849	1.840	0.0849			0.0500	3.65%
165.10	Sucrose, HPAEC PAD (%)	1	1	1.955							
166.99	Raffinose, Miscellaneous (%)	2	2	0.4550	0.0071						
166.10	Raffinose, HPAEC PAD (%)	1	1	0.7230							
167.99	Stachyose, Miscellaneous (%)	2	2	0.6623	0.0392						
167.10	Stachyose, HPAEC PAD (%)	1	1	1.050							
345.02	Amprolium, LC (UV or FL) (ppm)	1	1	0.8910							
345.04	Amprolium, LC-MS/MS (ppm)	1	1	0.1895							
351.03	Chlortetracycline, LC (UV or FL) (ppm)	7	7	240.6	18.86	240.6	21.39	10.10	8.89%	10.48	7.01%
351.05	Chlortetracycline, LC-MS/MS (ppm)	5	4	239.6	56.93	239.6	56.93	28.47	23.76%	3.741	7.01%
351.00	Chlortetracycline, Plate (ppm)	2	2	217.3	45.79						
354.04	Decoquinatate, LC-MS/MS (ppm)	3	3	0.5267	0.0317	0.5267	0.0317	0.0183	6.01%	0.0467	17.62%
354.01	Decoquinatate, LC (UV or FL) (ppm)	2	2	0.6870	0.0184						
361.05	Lasalocid Sodium, LC-MS/MS (ppm)	4	2	0.1943	0.0788	0.1943	0.0788			0.0135	20.47%
361.03	Lasalocid Sodium, LC (UV or FL) (ppm)	2	1	0.2816							
365.05	Monensin, LC-MS/MS (ppm)	1		0.2500							
386.00	Tiamulin, LC (ppm)	5	4	111.9	20.14	111.9	20.14	10.07	17.99%	1.298	7.86%
386.02	Tiamulin, LC-MS/MS (ppm)	3	3	103.4	29.49	103.4	29.49	17.03	28.52%	3.275	7.96%
400.01	Water Activity, Aqualab chilled mirror (Units)	10	10	0.4959	0.0320	0.4983	0.0304	0.0120	6.10%	0.0067	
400.99	Water Activity, Miscellaneous (Units)	1	1	0.5155							
516.53	Arsenic, Total, ICP-MS, Microwave (ppm)	5	4	0.3056	0.0529	0.3056	0.0529	0.0265	17.32%	0.0188	19.12%
516.00	Arsenic, Total, AA, Hydride (ppm)	3	3	0.2757	0.0141	0.2757	0.0141	0.0082	5.13%	0.0093	19.42%
516.52	Arsenic, Total, ICP-MS, Open vessel (ppm)	2	2	0.2813	0.0336						
516.43	Arsenic, Total, ICP, Microwave (ppm)	2	1	1.198							
518.53	Cadmium, ICP-MS, Microwave (ppm)	5	5	0.2014	0.0154	0.2014	0.0154	0.0069	7.66%	0.0083	20.36%
518.43	Cadmium, ICP, Microwave (ppm)	3	3	0.2390	0.0560	0.2390	0.0560	0.0396	23.42%	0.0068	19.84%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.1898	0.0045						
518.52	Cadmium, ICP-MS, Open vessel (ppm)	2	2	0.2015	0.0191						
518.34	Cadmium, AAS, Graphite furnace (ppm)	1	1	0.2114							
518.31	Cadmium, AAS, Dry ash (ppm)	1		0.2000							
520.43	Chromium, ICP, Microwave (ppm)	4	4	5.565	1.465	5.565	1.465	0.7326	26.33%	0.1107	12.35%

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
520.53	Chromium, ICP-MS, Microwave (ppm)	4	4	5.000	0.3738	5.000	0.3738	0.1869	7.48%	0.1365	12.56%
520.41	Chromium, ICP, Dry ash (ppm)	2	2	3.993	0.0008						
520.42	Chromium, ICP, Open vessel (ppm)	2	2	5.451	0.0912						
520.52	Chromium, ICP-MS, Open vessel (ppm)	1	1	3.674							
526.53	Lead, ICP-MS, Microwave (ppm)	4	4	0.2202	0.0225	0.2202	0.0225	0.0113	10.22%	0.0257	20.09%
526.41	Lead, ICP, Dry ash (ppm)	2	2	0.2034	0.0033						
526.52	Lead, ICP-MS, Open vessel (ppm)	2	2	0.2200	0.0141						
526.34	Lead, AAS, Graphite furnace (ppm)	1	1	0.1654							
526.43	Lead, ICP, Microwave (ppm)	2	1	0.2813							
526.31	Lead, AAS, Dry ash (ppm)	1		0.2000							
529.99	Mercury, Miscellaneous (ppb)	3	1								
539.53	Nickel, ICP-MS, Microwave (ppm)	3	3	2.939	0.3119	2.939	0.3119	0.1801	10.61%	0.0800	13.60%
539.41	Nickel, ICP, Dry ash (ppm)	2	2	2.050	0.2478						
539.43	Nickel, ICP, Microwave (ppm)	2	2	2.670	1.301						
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	1.985							
702.00	Butyric Acid (4:0), Miscellaneous GC (%)	1		0.0200							
704.00	Caproic Acid (6:0) , Miscellaneous GC (%)	2		0.0100							
706.99	Caprylic acid (8:0), Miscellaneous (%) (w/w)	2		0.0100							
708.99	Capric acid (10:0), Miscellaneous (%) (w/w)	2		0.0100							
710.99	Lauric Acid (12:0), Miscellaneous (%) (w/w)	3									
714.99	Myristic Acid (14:0) , Miscellaneous (%) (w/w)	3	1								
716.99	Palmitic Acid (16:0), Miscellaneous (%) (w/w)	3	3	0.5182	0.0291	0.5182	0.0291	0.0206	5.62%	0.0143	4.42%
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (%) (w/w)	3	2	0.0105	0.0007	0.0105	0.0007			0.0000	7.94%
720.99	Margaric acid (17:0), Miscellaneous (%) (w/w)	1		0.0200							
722.99	Stearic Acid (18:0), Miscellaneous (%) (w/w)	3	3	0.1018	0.0119	0.1018	0.0119	0.0068	11.65%	0.0063	5.64%
724.99	Oleic Acid (9c-18:1), Miscellaneous (%) (w/w)	3	3	0.6633	0.0885	0.6633	0.0885	0.0511	13.34%	0.0127	4.25%
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (%) (w/w)	2	2	1.178	0.0226						
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (%) (w/w)	3	3	0.0703	0.0015	0.0703	0.0015			0.0000	5.96%
730.99	Arachidic Acid (20:0), Miscellaneous (%) (w/w)	3	2	0.0090	0.0014	0.0090	0.0014			0.0000	8.13%
732.99	Gondoic Acid (11c-20:1), Miscellaneous (%) (w/w)	2	1	0.0145							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (%) (w/w)	2		0.0100							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (%) (w/w)	3									
742.99	Behenic Acid (22:0), Miscellaneous (%) (w/w)	3	1								
744.99	Erucic Acid (13c-22:1), Miscellaneous (%) (w/w)	3	1								
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (%) (w/w)	2		0.0000							
748.99	Lignoceric Acid (24:0), Miscellaneous (%) (w/w)	2	1	0.0075							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (%) (w/w)	3									
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (%) (w/w)	2		0.0050							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (%) (w/w)	1	1	0.0740							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (%) (w/w)	1	1	1.204							

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
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	2	2	0.7005	0.0064						
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.8350							
764.99	Total cis Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.7055							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.330							
768.99	Total cis Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	1.284							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	2.839							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	2.591	0.1778						

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, Medicated

Test Material Code # 202032

Method Precision Report

Methods Reported: 94

Labs Reporting: 174

Issue Date : 01/31/2021

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	41	9.262	0.2925	0.2295	0.0958	0.2487	2.48%	1.03%	2.69%	2.597
001.99	Loss on Drying, Miscellaneous (%)	22	19	8.796	0.7324	0.5808	0.1022	0.5897	6.54%	1.15%	6.64%	5.770
002.01	Protein, Crude, Auto Kjel-Foss (%)	13	13	15.64	0.2591	0.2401	0.1376	0.2767	1.54%	0.88%	1.77%	2.011
002.05	Protein, Crude, Copper, Boric Acid (%)	23	22	15.40	0.1851	0.1580	0.1365	0.2088	1.03%	0.89%	1.36%	1.530
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	118	105	15.74	0.4334	0.2975	0.1645	0.3399	1.89%	1.05%	2.16%	2.066
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	9	8	2.368	0.3969	0.3375	0.0602	0.3429	14.75%	2.63%	14.98%	5.696
003.06	Fat, Crude, Pet Ether (%)	15	14	2.316	0.4780	0.2902	0.0590	0.2962	13.09%	2.66%	13.36%	5.016
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	12	11	2.295	0.2736	0.1791	0.1241	0.2179	8.00%	5.54%	9.73%	1.756
003.10	Fat, Crude, Randall, Pet Ether (%)	30	27	2.140	0.3249	0.1862	0.1688	0.2513	8.73%	7.91%	11.78%	1.489
003.14	Fat, Crude, Ankom (%)	52	51	1.903	0.3275	0.3254	0.0803	0.3351	17.12%	4.23%	17.64%	4.171
004.00	Fiber, Crude, Asbestos Free (%)	14	12	3.927	0.2705	0.2619	0.0956	0.2788	6.67%	2.43%	7.10%	2.917
004.06	Fiber, Crude, Fibertec (%)	17	16	3.994	0.3331	0.2509	0.0838	0.2645	6.37%	2.13%	6.71%	3.155
004.07	Fiber, Crude, ANKOM (%)	66	61	4.018	0.5946	0.4455	0.1668	0.4756	11.21%	4.20%	11.97%	2.852
005.00	Ash, 2h @ 600°C (%)	88	85	11.51	0.4724	0.4490	0.1305	0.4676	3.90%	1.13%	4.06%	3.584
005.05	Ash, 3h @ 550°C (%)	25	22	11.97	0.3863	0.2962	0.1058	0.3145	2.47%	0.88%	2.62%	2.974
005.99	Ash, Miscellaneous (%)	10	8	11.81	0.7768	0.4456	0.1001	0.4567	3.70%	0.83%	3.80%	4.565
008.02	Fiber, Acid Detergent, Crucible (%)	12	11	5.224	0.3480	0.3252	0.1753	0.3694	6.23%	3.36%	7.07%	2.108
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	39	5.300	0.4479	0.2872	0.1755	0.3366	5.49%	3.36%	6.44%	1.917
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	13	13	14.08	0.9746	0.9444	0.3402	1.004	6.71%	2.42%	7.13%	2.951
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	39	37	13.53	0.8992	0.5275	0.2364	0.5780	3.94%	1.77%	4.32%	2.445
010.99	Moisture, Miscellaneous (%)	17	16	9.365	0.3139	0.3039	0.1113	0.3236	3.24%	1.19%	3.46%	2.909
011.01	Loss on Drying, 135°C 2hr (%)	64	59	9.879	0.3663	0.3172	0.0773	0.3264	3.20%	0.78%	3.29%	4.226
012.00	Starch, Polarimetric (Ewers) (%)	12	11	37.24	3.177	0.7160	0.3198	0.7841	1.88%	0.84%	2.06%	2.452
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	10	36.01	4.359	2.295	0.6438	2.383	6.18%	1.73%	6.42%	3.702
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	21	19	2.971	0.4957	0.4982	0.0924	0.5067	16.87%	3.13%	17.16%	5.481
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	19	18	3.414	0.5661	0.4324	0.1017	0.4442	12.99%	3.05%	13.35%	4.370
015.43	Aluminum, ICP, Microwave (ppm)	9	8	183.8	26.15	16.33	5.705	17.29	9.23%	3.23%	9.78%	3.031
019.08	Calcium, EDTA (%)	9	8	2.811	0.1217	0.1200	0.0283	0.1233	4.27%	1.01%	4.39%	4.351
019.31	Calcium, AAS, Dry ash (%)	13	11	2.773	0.1273	0.1306	0.0257	0.1331	4.72%	0.93%	4.81%	5.176
019.41	Calcium, ICP, Dry ash (%)	23	21	2.793	0.2094	0.1580	0.0850	0.1794	5.74%	3.09%	6.51%	2.111
019.42	Calcium, ICP, Open vessel (%)	19	16	2.831	0.2146	0.1726	0.0596	0.1826	6.02%	2.08%	6.37%	3.062
019.43	Calcium, ICP, Microwave (%)	28	28	2.791	0.2017	0.1922	0.0866	0.2108	6.89%	3.10%	7.55%	2.435
022.31	Copper, AAS, Dry ash (ppm)	12	10	100.0	11.25	5.483	1.947	5.819	5.67%	2.01%	6.02%	2.988
022.41	Copper, ICP, Dry ash (ppm)	17	16	94.31	6.031	5.754	2.554	6.296	6.10%	2.71%	6.68%	2.465
022.42	Copper, ICP, Open vessel (ppm)	20	19	104.4	7.471	6.499	3.545	7.403	6.18%	3.37%	7.04%	2.088
022.43	Copper, ICP, Microwave (ppm)	25	22	102.0	6.166	4.587	3.486	5.761	4.53%	3.45%	5.69%	1.653

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
025.31	Iron, AAS, Dry ash (ppm)	12	10	837.3	54.31	31.45	11.01	33.32	3.70%	1.29%	3.92%	3.027
025.41	Iron, ICP, Dry ash (ppm)	19	19	799.8	83.58	82.88	15.27	84.27	10.36%	1.91%	10.54%	5.520
025.42	Iron, ICP, Open vessel (ppm)	16	15	735.8	186.6	184.7	37.99	188.6	25.10%	5.16%	25.63%	4.963
025.43	Iron, ICP, Microwave (ppm)	24	23	798.2	183.2	100.9	30.21	105.4	12.17%	3.64%	12.70%	3.488
027.31	Magnesium, AAS, Dry ash (%)	10	8	0.2933	0.0237	0.0108	0.0042	0.0116	3.79%	1.46%	4.06%	2.778
027.41	Magnesium, ICP, Dry ash (%)	17	16	0.2799	0.0170	0.0165	0.0048	0.0172	5.94%	1.74%	6.19%	3.557
027.42	Magnesium, ICP, Open vessel (%)	20	18	0.2841	0.0151	0.0095	0.0119	0.0153	3.32%	4.18%	5.34%	1.278
027.43	Magnesium, ICP, Microwave (%)	24	22	0.2783	0.0176	0.0170	0.0061	0.0181	6.12%	2.18%	6.49%	2.985
028.31	Manganese, AAS, Dry ash (ppm)	11	11	225.4	17.49	17.10	5.215	17.88	7.59%	2.31%	7.93%	3.428
028.41	Manganese, ICP, Dry ash (ppm)	16	15	217.4	33.25	22.78	5.226	23.37	10.19%	2.34%	10.45%	4.471
028.42	Manganese, ICP, Open vessel (ppm)	20	18	241.5	20.03	19.25	10.41	21.89	7.97%	4.31%	9.06%	2.102
028.43	Manganese, ICP, Microwave (ppm)	25	22	232.2	12.94	12.02	6.328	13.59	5.19%	2.73%	5.87%	2.147
031.01	Phosphorus, Photometric (%)	28	26	0.9937	0.0471	0.0395	0.0168	0.0429	3.95%	1.68%	4.29%	2.554
031.41	Phosphorus, ICP, Dry ash (%)	22	20	1.007	0.0520	0.0498	0.0170	0.0527	4.93%	1.69%	5.21%	3.094
031.42	Phosphorus, ICP, Open vessel (%)	19	17	1.010	0.0683	0.0415	0.0453	0.0614	4.09%	4.46%	6.05%	1.356
031.43	Phosphorus, ICP, Microwave (%)	28	25	1.022	0.0539	0.0324	0.0260	0.0415	3.20%	2.56%	4.10%	1.599
032.41	Potassium, ICP, Dry ash (%)	19	18	0.8423	0.0468	0.0316	0.0218	0.0384	3.72%	2.56%	4.52%	1.763
032.42	Potassium, ICP, Open vessel (%)	18	16	0.8730	0.0636	0.0387	0.0203	0.0437	4.49%	2.36%	5.07%	2.147
032.43	Potassium, ICP, Microwave (%)	24	23	0.8639	0.0529	0.0427	0.0227	0.0484	4.98%	2.64%	5.64%	2.134
033.00	Salt as chloride, Sol Cl (%)	21	18	1.997	0.0577	0.0422	0.0381	0.0569	2.10%	1.90%	2.83%	1.493
033.01	Salt as chloride, Poten Cl (%)	28	25	2.032	0.0852	0.0475	0.0153	0.0499	2.36%	0.76%	2.48%	3.260
033.99	Salt, Miscellaneous (%)	11	8	1.910	0.1778	0.1043	0.0234	0.1069	5.30%	1.19%	5.43%	4.569
035.31	Sodium, AAS, Dry ash (%)	10	10	0.7133	0.0480	0.0474	0.0112	0.0487	6.64%	1.56%	6.82%	4.363
035.41	Sodium, ICP, Dry ash (%)	21	20	0.7101	0.0484	0.0368	0.0180	0.0410	5.24%	2.56%	5.83%	2.274
035.42	Sodium, ICP, Open vessel (%)	18	18	0.7382	0.0423	0.0377	0.0272	0.0465	5.10%	3.69%	6.30%	1.707
035.43	Sodium, ICP, Microwave (%)	22	20	0.7295	0.0460	0.0370	0.0112	0.0386	5.02%	1.52%	5.24%	3.446
036.42	Sulfur, ICP, Open vessel (%)	21	19	0.3438	0.0256	0.0178	0.0114	0.0211	5.20%	3.33%	6.18%	1.855
036.43	Sulfur, ICP, Microwave (%)	17	17	0.3589	0.0262	0.0247	0.0122	0.0276	6.89%	3.39%	7.68%	2.263
037.31	Zinc, AAS, Dry ash (ppm)	12	11	499.0	135.3	23.20	4.944	23.72	4.32%	0.92%	4.41%	4.797
037.41	Zinc, ICP, Dry ash (ppm)	17	15	516.1	51.18	31.95	9.539	33.34	6.06%	1.81%	6.32%	3.495
037.42	Zinc, ICP, Open vessel (ppm)	18	15	540.7	50.78	30.99	20.21	37.00	5.88%	3.83%	7.02%	1.831
037.43	Zinc, ICP, Microwave (ppm)	25	22	544.3	31.17	24.54	12.15	27.39	4.48%	2.22%	5.00%	2.254
038.43	Molybdenum, ICP, Microwave (ppm)	9	9	2.005	0.2039	0.2019	0.0409	0.2060	10.07%	2.04%	10.27%	5.033
109.02	Vitamin E, LC (IU / kg)	8	8	47.72	5.927	5.627	2.632	6.212	11.79%	5.52%	13.02%	2.360
120.00	Alanine, Post-col Ninhydrin Der (%)	19	17	0.7235	0.0451	0.0387	0.0070	0.0393	5.30%	0.96%	5.39%	5.636
121.00	Arginine, Post-col Ninhydrin Der (%)	19	19	0.9241	0.0584	0.0577	0.0120	0.0590	6.25%	1.29%	6.38%	4.929
121.05	Arginine, Pre-col AQC Der (%)	8	8	0.8461	0.1649	0.1640	0.0249	0.1658	19.38%	2.94%	19.60%	6.670
122.00	Aspartic, Post-col Ninhydrin Der (%)	19	18	1.279	0.0673	0.0538	0.0210	0.0578	4.18%	1.63%	4.49%	2.746
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	19	18	0.2547	0.0238	0.0225	0.0110	0.0251	8.84%	4.33%	9.84%	2.272
125.00	Glutamic, Post-col Ninhydrin Der (%)	19	18	2.767	0.1696	0.1283	0.0297	0.1317	4.59%	1.06%	4.72%	4.433
126.00	Glycine, Post-col Ninhydrin Der (%)	19	19	0.7400	0.0342	0.0324	0.0156	0.0360	4.38%	2.11%	4.86%	2.306
127.00	Histidine, Post-col Ninhydrin Der (%)	19	18	0.3803	0.0254	0.0197	0.0082	0.0214	5.24%	2.17%	5.67%	2.614
127.05	Histidine, Pre-col AQC Der (%)	8	8	0.3747	0.0508	0.0503	0.0105	0.0514	13.42%	2.80%	13.71%	4.891
128.00	Isoleucine, Post-col Ninhydrin Der (%)	19	17	0.5266	0.0646	0.0640	0.0067	0.0643	12.25%	1.28%	12.31%	9.643
129.00	Leucine, Post-col Ninhydrin Der (%)	19	19	1.103	0.0663	0.0657	0.0119	0.0668	5.96%	1.08%	6.06%	5.603
130.00	L-Lysine, Post-col Ninhydrin Der (%)	21	20	0.6892	0.0398	0.0217	0.0101	0.0239	3.11%	1.45%	3.43%	2.364

Test Material Code # 202032

Issue Date : 01/31/2021

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
130.05	L-Lysine, Pre-col AQC Der (%)	8	8	0.6814	0.0565	0.0542	0.0228	0.0588	7.95%	3.35%	8.63%	2.574
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	20	20	0.2088	0.0268	0.0262	0.0079	0.0273	12.54%	3.78%	13.10%	3.463
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	19	18	0.6585	0.0543	0.0422	0.0125	0.0440	6.33%	1.88%	6.60%	3.521
132.05	Phenylalanine, Pre-col AQC Der (%)	8	8	0.6463	0.0462	0.0435	0.0217	0.0486	6.74%	3.36%	7.53%	2.243
133.00	Proline, Post-col Ninhydrin Der (%)	18	16	0.9794	0.1222	0.0848	0.0117	0.0856	8.86%	1.22%	8.94%	7.334
133.05	Proline, Pre-col AQC Der (%)	8	8	0.9389	0.0905	0.0893	0.0209	0.0917	9.51%	2.22%	9.77%	4.395
134.00	Serine, Post-col Ninhydrin Der (%)	19	16	0.6918	0.0495	0.0279	0.0048	0.0283	4.04%	0.69%	4.10%	5.901
135.00	Threonine, Post-col Ninhydrin Der (%)	19	17	0.5157	0.0300	0.0249	0.0043	0.0253	4.80%	0.83%	4.87%	5.839
137.00	Tyrosine, Post-col Ninhydrin Der (%)	14	13	0.4401	0.0707	0.0705	0.0043	0.0706	15.82%	0.96%	15.85%	16.50
138.00	Valine, Post-col Ninhydrin Der (%)	19	17	0.6551	0.0667	0.0527	0.0123	0.0541	7.92%	1.85%	8.14%	4.396
138.05	Valine, Pre-col AQC Der (%)	8	8	0.6509	0.0586	0.0567	0.0210	0.0604	8.70%	3.22%	9.28%	2.883
400.01	Water Activity, Aqualab chilled mirror (Units)	10	10	0.4959	0.0320	0.0316	0.0070	0.0324	6.37%	1.40%	6.53%	4.647

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