



AAFCO
Proficiency Testing Program



Animal Feed Scheme
Goat Feed, Medicated
Test Material Code # 201924

Method Summary Report
(Precision Report Follows)

Labs Reporting: 200
Methods Reported: 372
Issue Date : 05/31/2019

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 (%)	2	1	1.000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	4	4	8.242	0.1618	8.242	0.1618	0.0809	1.96%	0.1205	2.91%
001.03	Loss on Drying, Low temp. methods (%)	6	6	8.494	0.1910	8.486	0.1987	0.1014	2.34%	0.1029	2.90%
001.05	Loss on Drying, LECO (%)	2	2	7.995	0.0495						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	52	51	8.210	0.4122	8.244	0.2996	0.0524	3.63%	0.0896	2.91%
001.99	Loss on Drying, Miscellaneous (%)	24	24	8.159	0.4813	8.189	0.2503	0.0639	3.06%	0.1259	2.91%
002.01	Protein, Crude, Auto Kjell-Foss (%)	11	11	16.47	0.2721	16.47	0.3086	0.1163	1.87%	0.1845	2.46%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	4	4	16.55	0.3408	16.55	0.3408	0.1704	2.06%	0.2039	2.46%
002.03	Protein, Crude, Hach Method (%)	1	1	15.93							
002.04	Protein, Crude, Copper Catalyst (%)	5	5	16.65	0.1818	16.65	0.1818	0.0813	1.09%	0.0940	2.45%
002.05	Protein, Crude, Copper, Boric Acid (%)	34	34	16.54	0.1969	16.54	0.2113	0.0453	1.28%	0.1397	2.46%
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	132	130	16.87	0.4462	16.84	0.2888	0.0317	1.72%	0.1583	2.44%
002.08	Protein, Crude, Cu/Ti (%)	2	2	17.15	0.7457						
002.11	Protein, Crude, NIR (%)	5	4	19.48	2.671	19.48	2.671	1.336	13.71%	0.1365	2.27%
002.99	Protein, Crude, Miscellaneous (%)	1	1	16.76							
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	13	13	3.576	0.3287	3.574	0.3612	0.1252	10.11%	0.0922	3.30%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	2.230							
003.06	Fat, Crude, Pet Ether (%)	17	17	3.682	0.7045	3.604	0.2627	0.0797	7.29%	0.1309	3.30%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	11	11	3.537	0.1374	3.520	0.1110	0.0418	3.15%	0.0900	3.31%
003.10	Fat, Crude, Randall, Pet Ether (%)	30	30	3.242	0.2400	3.222	0.2054	0.0469	6.37%	0.0778	3.35%
003.11	Fat, Crude, NIR (%)	7	7	4.631	2.005	3.992	0.4470	0.2112	11.20%	0.0214	3.25%
003.12	Fat, Crude, Hexane Ext (%)	7	7	3.388	0.2100	3.388	0.2381	0.1125	7.03%	0.0580	3.33%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	9	9	3.447	0.3610	3.401	0.2930	0.1221	8.61%	0.1337	3.33%
003.14	Fat, Crude, Ankom (%)	51	51	3.209	0.2816	3.217	0.2425	0.0424	7.54%	0.1135	3.35%
003.99	Fat, Crude, Miscellaneous (%)	4	4	3.454	0.3553	3.454	0.3553	0.1776	10.29%	0.0525	3.32%
004.00	Fiber, Crude, Asbestos Free (%)	13	13	13.57	0.5946	13.57	0.6743	0.2338	4.97%	0.2729	2.70%
004.01	Fiber, Crude, Sing Filt (%)	1	1	11.75							
004.03	Fiber, Crude, Fritted Glass (%)	5	5	13.15	1.696	13.15	1.696	0.7586	12.90%	0.2260	2.71%
004.06	Fiber, Crude, Fibertec (%)	22	22	13.51	0.4721	13.51	0.4799	0.1279	3.55%	0.1246	2.70%
004.07	Fiber, Crude, ANKOM (%)	67	66	13.75	1.476	13.49	0.9211	0.1417	6.83%	0.2611	2.70%

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004.11	Fiber, Crude, NIR (%)	5	4	11.25	1.317	11.25	1.317	0.6583	11.71%	0.1063	2.78%
004.99	Fiber, Crude, Miscellaneous (%)	3	3	12.75	0.4406	12.75	0.4406	0.2544	3.46%	0.2467	2.73%
005.00	Ash, 2h @ 600°C (%)	94	92	10.37	0.3319	10.37	0.3397	0.0443	3.28%	0.1041	2.81%
005.02	Ash, LECO (%)	1	1	10.51							
005.05	Ash, 3h @ 550°C (%)	37	35	10.67	0.2941	10.68	0.2244	0.0474	2.10%	0.0760	2.80%
005.11	Ash, NIR (%)	4	3	7.005	0.7176	7.005	0.7176	0.4143	10.24%	0.0433	2.98%
005.99	Ash, Miscellaneous (%)	7	7	10.49	0.6265	10.60	0.4329	0.2045	4.08%	0.1264	2.80%
006.00	Total Sugars, As sucrose (%)	2	2	3.423	0.8107						
006.99	Total Sugars, Miscellaneous (%)	3	3	3.669	1.576	3.669	1.576	0.9097	42.95%	0.3062	3.29%
008.02	Fiber, Acid Detergent, Crucible (%)	18	18	17.89	1.285	18.11	0.9057	0.2668	5.00%	0.2883	2.35%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	19.90							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	41	39	17.99	1.167	18.00	1.272	0.2545	7.07%	0.2776	2.36%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	3	3	16.61	0.7414	16.61	0.7414	0.4280	4.46%	1.240	2.45%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	2	2	37.27	2.585						
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	16	16	36.45	2.230	36.23	1.478	0.4620	4.08%	0.5262	1.66%
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	42	41	34.92	1.722	34.89	1.461	0.2851	4.19%	0.4306	1.69%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	2	2	34.86	4.883						
010.03	Moisture, Karl-Fischer (%)	2	2	8.078	0.2581						
010.11	Moisture, NIR (%)	3	3	9.889	1.198	9.889	1.198	0.6917	12.12%	0.0922	2.83%
010.99	Moisture, Miscellaneous (%)	14	13	8.418	0.6007	8.354	0.4365	0.1513	5.23%	0.0531	2.91%
011.01	Loss on Drying, 135°C 2hr (%)	66	65	8.970	0.6613	9.052	0.4389	0.0680	4.85%	0.0956	2.87%
011.02	Loss on Drying, 130°C for 2 hours (%)	1	1	8.920							
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	2	2	9.483	0.8945						
012.00	Starch, Polarimetric (Ewers) (%)	14	13	16.66	0.6446	16.56	0.4628	0.1604	2.79%	0.1477	2.46%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	12	15.78	1.085	15.68	0.9824	0.3545	6.27%	0.4491	2.53%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	5	4	15.46	0.7525	15.46	0.7525	0.3763	4.87%	0.2603	2.54%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	4	4	15.51	1.112	15.51	1.112	0.5558	7.17%	0.1275	2.54%
012.11	Starch, NIR (%)	4	4	22.62	5.014	22.62	5.014	2.507	22.17%	0.1140	2.10%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	19	19	4.279	0.5296	4.284	0.5898	0.1691	13.77%	0.1487	3.21%
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	19	19	4.918	0.6452	4.846	0.5102	0.1463	10.53%	0.1826	3.15%
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	2.937							
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	7	7	4.592	1.495	4.181	0.5625	0.2658	13.45%	0.1416	3.22%
013.12	Fat, Acid Pretreat, NIR- Acid Hydrolysis (%)	1	1	3.683							
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	4	4	4.518	1.067	4.518	1.067	0.5333	23.60%	0.0969	3.19%
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	5	5	120.2	11.96	120.2	11.96	5.349	9.95%	4.052	7.78%
015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	126.0							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	7	7	113.3	32.55	116.6	28.73	13.57	24.63%	5.430	7.82%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	78.00							
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	6	6	6.477	0.6140	6.477	0.6963	0.3553	10.75%	0.5616	12.08%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	5	5	7.386	2.446	7.386	2.446	1.094	33.12%	0.9808	11.84%

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017.43	Boron, ICP, Microwave (mg / kg (ppm))	6	4	6.159	0.7025	6.159	0.7025	0.5141	11.41%	0.1025	12.17%
019.00	Calcium, Ox-Mn04 Vol. (%)	11	11	2.075	0.0530	2.074	0.0586	0.0221	2.82%	0.0401	3.58%
019.02	Calcium, Hach Method (%)	1	1	1.061							
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	2.183							
019.08	Calcium, EDTA (%)	13	12	2.003	0.2513	2.062	0.1345	0.0485	6.52%	0.0434	3.59%
019.09	Calcium, Ion-selective electrode (%)	1	1	2.344							
019.31	Calcium, AAS, Dry ash (%)	21	21	2.048	0.1154	2.055	0.1143	0.0312	5.56%	0.0425	3.59%
019.32	Calcium, AAS, Open vessel (%)	1	1	2.030							
019.33	Calcium, AAS, Microwave (%)	1	1	2.210							
019.34	Calcium, AAS, Dry ash (%)	2	2	2.060	0.0778						
019.41	Calcium, ICP, Dry ash (%)	29	29	2.055	0.1009	2.059	0.0969	0.0225	4.71%	0.0442	3.59%
019.42	Calcium, ICP, Open vessel (%)	20	19	2.066	0.0950	2.073	0.0895	0.0257	4.32%	0.0482	3.58%
019.43	Calcium, ICP, Microwave (%)	27	26	2.061	0.1316	2.062	0.0881	0.0216	4.28%	0.0392	3.59%
019.44	Calcium, ICP, Dry ash (%)	1	1	2.100							
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	2.020							
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	2.109	0.1740	2.109	0.1740	0.1230	8.25%	0.0451	3.57%
019.53	Calcium, ICP-MS, Microwave (%)	1	1	1.985							
019.99	Calcium, Miscellaneous (%)	5	4	2.073	0.0667	2.073	0.0667	0.0333	3.22%	0.0600	3.58%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	2	2	3.100	0.3536						
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	5	4	2.735	0.4860	2.735	0.4860	0.2430	17.77%	0.0414	13.75%
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	3	3	2.689	0.2496	2.689	0.2496	0.1441	9.28%	0.1663	13.78%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	6	6	2.962	0.3813	2.962	0.4324	0.2207	14.60%	0.1953	13.58%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	3	3	2.203	0.3818	2.203	0.3818	0.2204	17.33%	0.2133	14.20%
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	2	2	1.703	0.8533						
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	10	10	52.02	11.35	53.41	9.241	3.653	17.30%	1.926	8.79%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	1	1	59.85							
022.33	Copper, AAS, Microwave (mg / kg (ppm))	2	2	62.86	16.96						
022.34	Copper, AAS, Graphite furnace (mg / kg (ppm))	1	1	67.85							
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	21	54.53	8.834	54.62	9.699	2.645	17.76%	2.664	8.76%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	18	18	71.29	4.429	71.26	4.942	1.456	6.94%	2.544	8.42%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	25	25	66.44	12.78	68.36	5.394	1.349	7.89%	2.093	8.47%
022.44	Copper, ICP, Dry ash (mg / kg (ppm))	1	1	62.02							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	84.51	21.94						
022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	1	1	63.00							
022.99	Copper, Miscellaneous (mg / kg (ppm))	5	3	71.53	3.061	71.53	3.061	1.768	4.28%	0.8400	8.41%
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	12	11	375.7	100.4	394.5	59.66	22.48	15.12%	7.331	6.51%
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	22	20	404.0	31.77	406.1	30.31	8.472	7.46%	8.734	6.48%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	15	15	384.6	97.04	404.4	42.46	13.70	10.50%	16.15	6.48%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	19	18	413.0	54.74	414.1	50.84	14.98	12.28%	11.85	6.46%
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	1	1	445.2							

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025.99	Iron, Miscellaneous (mg / kg (ppm))	3	3	418.7	21.05	418.7	21.05	12.15	5.03%	11.33	6.45%
027.31	Magnesium, AAS, Dry ash (%)	9	8	0.3740	0.0251	0.3775	0.0193	0.0085	5.12%	0.0006	4.63%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.3900							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.4070							
027.41	Magnesium, ICP, Dry ash (%)	22	21	0.3800	0.0179	0.3814	0.0165	0.0045	4.32%	0.0068	4.62%
027.42	Magnesium, ICP, Open vessel (%)	18	17	0.3803	0.0217	0.3818	0.0208	0.0063	5.46%	0.0088	4.62%
027.43	Magnesium, ICP, Microwave (%)	22	21	0.3674	0.0448	0.3723	0.0248	0.0068	6.66%	0.0115	4.64%
027.52	Magnesium, ICP-MS, Open vessel (%)	2	2	0.3760	0.0029						
027.53	Magnesium, ICP-MS, Microwave (%)	1	1	0.3770							
027.99	Magnesium, Miscellaneous (%)	3	3	0.3933	0.0275	0.3933	0.0275	0.0159	7.00%	0.0067	4.60%
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	11	11	259.4	131.4	243.5	29.94	11.29	12.30%	5.928	7.00%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	1	1	247.5							
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	1	1	250.8							
028.34	Manganese, AAS, Dry ash (mg / kg (ppm))	1	1	202.7							
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	22	22	234.3	15.92	235.7	12.90	3.437	5.47%	7.029	7.03%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	17	17	258.0	19.58	255.0	14.25	4.320	5.59%	5.676	6.95%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	25	24	235.5	51.43	248.7	14.04	3.583	5.65%	7.092	6.97%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	1	1	246.3							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm))	2	2	238.1	21.11						
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	2	2	220.9	23.49						
028.99	Manganese, Miscellaneous (mg / kg (ppm))	5	4	252.9	10.51	252.9	10.51	5.255	4.16%	6.625	6.96%
031.00	Phosphorus, Vol (%)	2	2	0.9076	0.0107						
031.01	Phosphorus, Photometric (%)	43	42	0.8997	0.0492	0.8995	0.0328	0.0063	3.64%	0.0160	4.06%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	2	2	0.9050	0.0000						
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.9243	0.0124	0.9243	0.0124	0.0072	1.34%	0.0091	4.05%
031.06	Phosphorus, Hach Method (%)	1	1	0.7850							
031.41	Phosphorus, ICP, Dry ash (%)	26	25	0.9178	0.0406	0.9139	0.0343	0.0086	3.75%	0.0185	4.05%
031.42	Phosphorus, ICP, Open vessel (%)	20	20	0.9096	0.0348	0.9103	0.0327	0.0091	3.59%	0.0245	4.06%
031.43	Phosphorus, ICP, Microwave (%)	24	23	0.9317	0.0519	0.9264	0.0405	0.0106	4.37%	0.0171	4.05%
031.44	Phosphorus, ICP, Dry ash (%)	2	2	0.9000	0.0283						
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	0.8650							
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.8798	0.0004						
031.53	Phosphorus, ICP-MS, Microwave (%)	1	1	0.8990							
031.99	Phosphorus, Miscellaneous (%)	4	4	0.8925	0.0479	0.8925	0.0479	0.0239	5.36%	0.0100	4.07%
032.31	Potassium, AAS, Dry ash (%)	10	10	0.9872	0.0949	0.9872	0.1076	0.0426	10.90%	0.0227	4.01%
032.32	Potassium, AAS, Open vessel (%)	2	2	1.032	0.1035						
032.41	Potassium, ICP, Dry ash (%)	24	24	0.9778	0.0623	0.9791	0.0675	0.0172	6.89%	0.0235	4.01%
032.42	Potassium, ICP, Open vessel (%)	19	18	1.043	0.0736	1.034	0.0473	0.0139	4.57%	0.0353	3.98%
032.43	Potassium, ICP, Microwave (%)	22	22	0.9963	0.0713	1.005	0.0590	0.0157	5.88%	0.0287	4.00%
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	0.9784	0.0476						

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032.53	Potassium, ICP-MS, Microwave (%)	1	1	1.075							
032.99	Potassium, Miscellaneous (%)	3	3	1.013	0.0301	1.013	0.0301	0.0174	2.97%	0.0067	3.99%
033.00	Salt as chloride, Sol Cl (%)	24	24	1.469	0.0708	1.470	0.0752	0.0192	5.12%	0.0441	3.77%
033.01	Salt as chloride, Poten Cl (%)	30	29	1.550	0.0464	1.551	0.0340	0.0079	2.19%	0.0146	3.74%
033.03	Salt as chloride, Quantab (%)	7	7	1.228	0.2195	1.228	0.2489	0.1176	20.27%	0.0539	3.88%
033.05	Salt as chloride, Ion Sel Electrode (%)	4	4	1.520	0.0227	1.520	0.0227	0.0114	1.50%	0.0150	3.76%
033.99	Salt, Miscellaneous (%)	8	7	1.195	0.2866	1.195	0.3249	0.1535	27.19%	0.0157	3.89%
034.01	Selenium, Fluor (mg / kg (ppm))	1	1	2.486							
034.04	Selenium, AA, Hydride (mg / kg (ppm))	3	3	2.472	0.1934	2.472	0.1934	0.1117	7.82%	0.2827	13.96%
034.31	Selenium, AAS, Dry ash (mg / kg (ppm))	1	1	2.700							
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	3	3	2.255	0.6524	2.255	0.6524	0.3766	28.93%	0.1667	14.15%
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	2	2	3.007	0.1977						
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	2.332	0.1928	2.332	0.1928	0.1113	8.27%	0.2833	14.08%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	6	6	2.506	0.4486	2.506	0.5087	0.2596	20.30%	0.0509	13.93%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	3	3	3.157	0.8262	3.157	0.8262	0.5842	26.17%	0.1267	13.46%
035.01	Sodium, Ion-selective electrode (%)	2	2	0.3500	0.0057						
035.02	Sodium, Em Spect (%)	1	1	0.3800							
035.05	Sodium, Flame Emission (%)	2	2	0.4268	0.0541						
035.31	Sodium, AAS, Dry ash (%)	16	16	0.3567	0.0327	0.3552	0.0263	0.0082	7.40%	0.0074	4.67%
035.32	Sodium, AAS, Open vessel (%)	1	1	0.3950							
035.41	Sodium, ICP, Dry ash (%)	22	21	0.3649	0.0248	0.3638	0.0257	0.0070	7.06%	0.0082	4.66%
035.42	Sodium, ICP, Open vessel (%)	16	16	0.3750	0.0218	0.3750	0.0247	0.0077	6.58%	0.0109	4.64%
035.43	Sodium, ICP, Microwave (%)	19	18	0.3757	0.0330	0.3763	0.0260	0.0077	6.92%	0.0077	4.63%
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.3858	0.0102						
035.53	Sodium, ICP-MS, Microwave (%)	1	1	0.3595							
035.99	Sodium, Miscellaneous (%)	5	4	0.3739	0.0147	0.3739	0.0147	0.0085	3.93%	0.0051	4.64%
036.04	Sulfur, LECO (%)	4	4	0.3375	0.0104	0.3375	0.0104	0.0052	3.08%	0.0100	4.71%
036.42	Sulfur, ICP, Open vessel (%)	20	20	0.3351	0.0221	0.3341	0.0218	0.0061	6.53%	0.0090	4.72%
036.43	Sulfur, ICP, Microwave (%)	16	16	0.3318	0.0304	0.3349	0.0205	0.0064	6.13%	0.0146	4.72%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.3192	0.0194						
036.99	Sulfur, Miscellaneous (%)	1	1	0.3300							
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	11	11	252.4	75.18	266.9	27.33	10.30	10.24%	7.983	6.90%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	1	1	282.5							
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	4	4	319.6	115.7	319.6	115.7	57.83	36.18%	23.80	6.72%
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	23	269.1	22.87	268.6	22.03	5.741	8.20%	9.062	6.89%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	17	17	301.8	17.14	301.7	19.07	5.782	6.32%	12.18	6.77%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	24	24	295.3	45.25	298.5	22.63	5.774	7.58%	14.28	6.79%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	1	1	322.5							
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	2	2	248.2	54.84						
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	1	1	299.5							

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037.99	Zinc, Miscellaneous (mg / kg (ppm))	5	4	300.9	35.12	300.9	35.12	20.28	11.67%	6.750	6.78%
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	3	3	1.412	0.0961	1.412	0.0961	0.0555	6.80%	0.0519	15.19%
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	4	2.353	1.466	2.353	1.466	0.7332	62.33%	0.6103	14.06%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	7	7	1.517	0.4485	1.517	0.5086	0.2403	33.52%	0.0912	15.02%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm))	2	2	0.9600	0.1626						
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	2	2	1.406	0.3378						
038.99	Molybdenum, Miscellaneous (mg / kg (ppm))	1	1	1.650							
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	19.86							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	17.58							
042.00	Chloride, Titrimetric (%)	3	3	1.483	0.4737	1.483	0.4737	0.3350	31.94%	0.0067	3.77%
042.99	Chloride, Miscellaneous (%)	1	1	0.4900							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	103.0							
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	10.21							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	1	1	3.030							
104.03	Riboflavin, LC (mg / kg (ppm))	1	1	0.7150							
105.00	Thiamine, LC (mg / kg (ppm))	1	1	4.815							
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	6.675							
106.00	Vitamin A, Color (KU / kg)	2	2	29.49	3.809						
106.01	Vitamin A, UV (KU / kg)	1	1	31.25							
106.02	Vitamin A, LC (KU / kg)	16	16	34.02	14.25	31.68	6.289	1.965	19.85%	2.562	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1		4.400							
108.02	Vitamin D3, LC (KU / kg)	4	3	4.070	1.836	4.070	1.836	1.060	45.10%	0.8800	
109.02	Vitamin E, LC (IU / kg)	10	9	76.45	33.64	67.79	8.869	3.696	13.08%	2.843	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	61.50							
112.01	Pyridoxine, LC (µg / g)	1	1	4.485							
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	0.8235							
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	0.2710							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	1.305							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	9.170							
120.00	Alanine, Post-col Ninhydrin Der (%)	23	22	0.7471	0.0363	0.7469	0.0316	0.0084	4.23%	0.0118	4.18%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.7745							
120.05	Alanine, Pre-col AQC Der (%)	9	8	0.7364	0.0556	0.7445	0.0423	0.0187	5.68%	0.0161	4.18%
120.99	Alanine, Miscellaneous (%)	2	2	1.085	0.5374						
121.00	Arginine, Post-col Ninhydrin Der (%)	23	23	1.067	0.0697	1.068	0.0601	0.0157	5.63%	0.0220	3.96%
121.02	Arginine, Post-col OPA Der (%)	1	1	1.045							
121.05	Arginine, Pre-col AQC Der (%)	8	8	1.049	0.0837	1.059	0.0690	0.0305	6.51%	0.0283	3.97%
121.99	Arginine, Miscellaneous (%)	1	1	1.170							
122.00	Aspartic, Post-col Ninhydrin Der (%)	23	23	1.146	0.0564	1.152	0.0492	0.0128	4.27%	0.0181	3.92%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.186							
122.05	Aspartic, Pre-col AQC Der (%)	9	9	1.134	0.1084	1.145	0.0938	0.0391	8.19%	0.0417	3.92%

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122.99	Aspartic, Miscellaneous (%)	2	2	1.320	0.2051						
124.00	Cysteine/Cystine, PAO Post-col Ninhydry (%)	22	21	0.3026	0.0286	0.3009	0.0148	0.0040	4.92%	0.0058	4.79%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.3130							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	8	8	0.2667	0.0924	0.2873	0.0477	0.0211	16.61%	0.0086	4.83%
124.99	Cysteine/Cystine, Miscellaneous (%)	2	2	0.2625	0.0672						
125.00	Glutamic, Post-col Ninhydrin Der (%)	23	22	2.895	0.1471	2.889	0.1282	0.0342	4.44%	0.0386	3.41%
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.894							
125.05	Glutamic, Pre-col AQC Der (%)	9	9	2.853	0.1799	2.848	0.1937	0.0807	6.80%	0.1047	3.42%
125.99	Glutamic, Miscellaneous (%)	2	2	3.433	0.4985						
126.00	Glycine, Post-col Ninhydrin Der (%)	23	22	0.7566	0.0349	0.7569	0.0336	0.0090	4.44%	0.0139	4.17%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.7705							
126.05	Glycine, Pre-col AQC Der (%)	9	9	0.7648	0.0333	0.7648	0.0377	0.0157	4.94%	0.0259	4.16%
126.99	Glycine, Miscellaneous (%)	2	2	0.7875	0.1732						
127.00	Histidine, Post-col Ninhydrin Der (%)	23	23	0.4083	0.0303	0.4059	0.0175	0.0046	4.32%	0.0086	4.58%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.4000							
127.05	Histidine, Pre-col AQC Der (%)	9	9	0.4104	0.0287	0.4079	0.0265	0.0110	6.49%	0.0179	4.58%
127.99	Histidine, Miscellaneous (%)	2	2	0.4375	0.0035						
128.00	Isoleucine, Post-col Ninhydrin Der (%)	23	23	0.4908	0.0534	0.4961	0.0460	0.0120	9.28%	0.0196	4.44%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.5085							
128.05	Isoleucine, Pre-col AQC Der (%)	9	9	0.5003	0.0378	0.5016	0.0400	0.0167	7.98%	0.0090	4.44%
128.99	Isoleucine, Miscellaneous (%)	2	2	0.5300	0.0071						
129.00	Leucine, Post-col Ninhydrin Der (%)	23	23	1.068	0.0485	1.069	0.0431	0.0112	4.03%	0.0197	3.96%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.075							
129.05	Leucine, Pre-col AQC Der (%)	9	9	1.051	0.0516	1.056	0.0454	0.0189	4.30%	0.0220	3.97%
129.99	Leucine, Miscellaneous (%)	2	2	1.108	0.0248						
130.00	L-Lysine, Post-col Ninhydrin Der (%)	24	24	0.6307	0.0343	0.6318	0.0294	0.0075	4.65%	0.0121	4.29%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.6495							
130.05	L-Lysine, Pre-col AQC Der (%)	9	9	0.6422	0.0670	0.6483	0.0457	0.0190	7.05%	0.0162	4.27%
130.99	L-Lysine, Miscellaneous (%)	3	3	0.6850	0.1303	0.6850	0.1303	0.0752	19.02%	0.0260	4.23%
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	23	22	0.2324	0.0179	0.2321	0.0160	0.0043	6.88%	0.0073	4.98%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.2295							
131.05	Methionine, PAO Pre-col AQC Der (%)	10	10	0.2234	0.0298	0.2238	0.0328	0.0130	14.67%	0.0092	5.01%
131.99	Methionine, Miscellaneous (%)	2	2	0.2450	0.0212						
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	23	23	0.6711	0.0481	0.6737	0.0486	0.0127	7.21%	0.0141	4.24%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.6720							
132.05	Phenylalanine, Pre-col AQC Der (%)	9	9	0.6588	0.0412	0.6588	0.0467	0.0195	7.09%	0.0182	4.26%
132.99	Phenylalanine, Miscellaneous (%)	2	2	0.7050	0.0354						
133.00	Proline, Post-col Ninhydrin Der (%)	23	22	0.9811	0.1372	0.9585	0.0507	0.0135	5.29%	0.0210	4.03%
133.05	Proline, Pre-col AQC Der (%)	8	8	0.9757	0.0628	0.9750	0.0469	0.0207	4.81%	0.0203	4.01%
133.99	Proline, Miscellaneous (%)	2	2	0.8950	0.0849						

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134.00	Serine, Post-col Ninhydrin Der (%)	23	23	0.6886	0.0426	0.6882	0.0320	0.0083	4.65%	0.0111	4.23%
134.02	Serine, Post-col OPA Der (%)	1	1	0.6290							
134.05	Serine, Pre-col AQC Der (%)	9	9	0.6958	0.0441	0.6955	0.0494	0.0206	7.10%	0.0238	4.22%
134.99	Serine, Miscellaneous (%)	2	2	0.8075	0.1732						
135.00	Threonine, Post-col Ninhydrin Der (%)	23	23	0.5133	0.0225	0.5137	0.0171	0.0045	3.33%	0.0109	4.42%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.5265							
135.05	Threonine, Pre-col AQC Der (%)	9	9	0.5016	0.0389	0.5039	0.0389	0.0162	7.72%	0.0169	4.43%
135.99	Threonine, Miscellaneous (%)	2	2	0.6000	0.1485						
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	8	8	0.2126	0.0250	0.2131	0.0273	0.0121	12.83%	0.0102	5.05%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.2002	0.0152	0.2002	0.0152	0.0088	7.58%	0.0023	5.10%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.2080							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	7	7	0.2124	0.0170	0.2108	0.0156	0.0074	7.38%	0.0030	5.06%
136.05	Tryptophan, Pre-col AQC Der (%)	3	3	0.1422	0.0501	0.1422	0.0501	0.0354	35.20%	0.0050	5.36%
136.99	Tryptophan, Miscellaneous (%)	2	2	0.1625	0.0530						
137.00	Tyrosine, Post-col Ninhydrin Der (%)	17	17	0.4243	0.0513	0.4261	0.0542	0.0164	12.71%	0.0139	4.55%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.4210							
137.05	Tyrosine, Pre-col AQC Der (%)	9	9	0.4680	0.0568	0.4680	0.0644	0.0268	13.76%	0.0279	4.48%
137.99	Tyrosine, Miscellaneous (%)	2	2	0.4675	0.1662						
138.00	Valine, Post-col Ninhydrin Der (%)	23	23	0.6800	0.0644	0.6882	0.0528	0.0138	7.67%	0.0184	4.23%
138.02	Valine, Post-col OPA Der (%)	1	1	0.7290							
138.05	Valine, Pre-col AQC Der (%)	9	9	0.7091	0.0411	0.7107	0.0431	0.0179	6.06%	0.0126	4.21%
138.99	Valine, Miscellaneous (%)	1	1	0.8200							
139.00	Taurine, Post-col Ninhydrin Der (%)	3	3	0.0910	0.0301	0.0910	0.0301	0.0212	33.02%	0.0013	5.74%
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0095							
160.99	Fructose, Miscellaneous (%)	3	2	0.1417	0.0244	0.1417	0.0244			0.0090	5.37%
161.99	Galactose, Miscellaneous (%)	1		0.0000							
162.99	Glucose, Miscellaneous (%)	3	2	0.1730	0.1230	0.1730	0.1230			0.0210	5.21%
163.99	Lactose, Miscellaneous (%)	3									
164.99	Maltose, Miscellaneous (%)	3	3	0.3703	0.0998	0.3703	0.0998	0.0576	26.95%	0.0354	4.64%
165.99	Sucrose, Miscellaneous (%)	3	3	1.400	0.2974	1.400	0.2974	0.2103	21.24%	0.1016	3.80%
166.99	Raffinose, Miscellaneous (%)	2	2	0.4768	0.2733						
167.99	Stachyose, Miscellaneous (%)	2	2	0.2650	0.2185						
348.99	Bacitracin, Miscellaneous (mg/kg (ppm))	1	1	0.0414							
351.00	Chlortetracycline, Plate (mg/kg (ppm))	1	1	2.744							
351.03	Chlortetracycline, LC (UV or FL) (mg/kg (ppm))	1	1	4.000							
351.05	Chlortetracycline, LC-MS/MS (mg/kg (ppm))	3	3	2.471	1.081	2.471	1.081	0.6240	43.73%	0.2633	13.96%
354.01	Decoquinatate, LC (UV or FL) (mg/kg (ppm))	6	6	43.95	3.025	44.02	3.269	1.668	7.43%	0.6576	9.05%
354.02	Decoquinatate, LC (mg/kg (ppm))	4	4	43.93	1.936	43.93	1.936	0.9679	4.41%	0.9000	9.05%
354.03	Decoquinatate, LC-MS (mg/kg (ppm))	1	1	36.60							

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354.04	Decoquinat, LC-MS/MS (mg/kg (ppm))	3	3	29.93	24.59	29.93	24.59	14.20	82.17%	3.730	9.59%
365.00	Monensin, Plate (mg/kg (ppm))	1	1	22.79							
365.02	Monensin, LC (mg/kg (ppm))	3	3	22.19	2.938	22.19	2.938	1.696	13.24%	0.8007	10.03%
365.03	Monensin, LC-PCD (mg/kg (ppm))	8	8	24.13	1.542	24.13	1.748	0.7726	7.24%	0.3096	9.91%
365.04	Monensin, LC-MS (mg/kg (ppm))	2	2	20.24	5.672						
365.05	Monensin, LC-MS/MS (mg/kg (ppm))	8	8	26.14	16.19	22.10	6.607	2.920	29.89%	1.965	10.04%
365.99	Monensin, Miscellaneous (mg/kg (ppm))	4	4	25.15	3.042	25.15	3.042	1.521	12.09%	0.4875	9.85%
382.02	Sulfamethazine, LC-PCD (mg/kg (ppm))	1	1	2.948							
382.04	Sulfamethazine, LC-MS/MS (mg/kg (ppm))	2	2	2.375	0.1414						
388.03	Tylosin, LC (mg/kg (ppm))	1		0.6000							
388.05	Tylosin, LC-MS/MS (mg/kg (ppm))	3	3	0.9508	1.188	0.9508	1.188	0.6859	124.95%	0.0337	16.12%
389.99	Virginiamycin, Miscellaneous (mg/kg (ppm))	1	1	40.23							
400.01	Water Activity, Aqualab chilled mirror (Units)	5	4	0.4435	0.0107	0.4435	0.0107	0.0054	2.41%	0.0076	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.4613	0.0039						
412.01	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	15.45							
516.00	Arsenic, Total, AA, Hydride (mg / kg (ppm))	2	2	0.1743	0.0315						
516.43	Arsenic, Total, ICP, Microwave (mg / kg (ppm))	1	1	1.578							
516.52	Arsenic, Total, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.1738	0.0284	0.1738	0.0284	0.0201	16.34%	0.0150	20.82%
516.53	Arsenic, Total, ICP-MS, Microwave (mg / kg (ppm))	2	2	0.2429	0.0790						
518.31	Cadmium, AAS, Dry ash (mg / kg (ppm))	1		0.2000							
518.34	Cadmium, AAS, Graphite furnace (mg / kg (ppm))	1	1	0.0790							
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	4	3	0.1131	0.0446	0.1131	0.0446	0.0257	39.41%	0.0012	22.00%
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	1	1	0.1452							
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.1398	0.0193	0.1398	0.0193	0.0111	13.79%	0.0130	21.51%
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	2	2	0.1452	0.0081						
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	3	3	4.661	1.080	4.661	1.080	0.6235	23.17%	0.6715	12.69%
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	2	2	9.970	0.6088						
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	2	2	7.555	5.120						
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	2.510							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	2	2	7.208	4.586						
526.31	Lead, AAS, Dry ash (mg / kg (ppm))	1		0.2000							
526.34	Lead, AAS, Graphite furnace (mg / kg (ppm))	1	1	0.5772							
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	3	3	0.1089	0.0697	0.1089	0.0697	0.0403	64.04%	0.0170	22.00%
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.1432	0.0410	0.1432	0.0410	0.0237	28.63%	0.0330	21.43%
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	2	2	0.1350	0.0028						
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	2	2	4.346	0.5585						
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	1.805							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	1	1	2.438							
710.99	Lauric Acid (12:0), Miscellaneous (%) (w/w)	2	1	0.0013							
714.99	Myristic Acid (14:0), Miscellaneous (%) (w/w)	2	1	0.0063							

Test Material Code # 201924

(Precision Report Follows)

Issue Date : 05/31/2019

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
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.6392	0.0366						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	2	1	0.0075							
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	2	0.0792	0.0083						
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.7367	0.0542						
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	2	2	1.930	0.0488						
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	2	2	0.1328	0.0031						
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	1	0.0111							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	2	0.0190	0.0014						
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	1		0.0050							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	2	1	0.0089							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1	1	0.0019							
746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (% (w/w))	1		0.0050							
748.99	Lignoceric Acid (24:0), Miscellaneous (% (w/w))	1	1	0.0125							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (% (w/w))	1		0.0050							
752.99	Nervonic Acid (24:1) isomers, Miscellaneous (% (w/w))	1		0.0050							
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids, Miscellaneous (% (w/w))	1	1	0.1400							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	1	1	1.885							
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.8250							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.8050							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	2.040							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	3.860							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	3.621	0.1050						

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

Methods Reported: 101

Goat Feed, Medicated

Method Precision Report

Labs Reporting: 200

Test Material Code # 201924

Issue Date : 05/31/2019

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 %rstd	Reproducibility %RSD	sR/sr
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	52	47	8.210	0.4122	0.3010	0.0840	0.3125	3.66%	1.02%	3.80%	3.721
001.99	Loss on Drying, Miscellaneous (%)	24	22	8.159	0.4813	0.2807	0.1082	0.3008	3.41%	1.31%	3.65%	2.780
002.01	Protein, Crude, Auto Kjel-Foss (%)	11	11	16.47	0.2721	0.2428	0.1738	0.2986	1.47%	1.06%	1.81%	1.718
002.05	Protein, Crude, Copper, Boric Acid (%)	34	33	16.54	0.1969	0.1777	0.1287	0.2194	1.07%	0.78%	1.33%	1.705
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	132	123	16.87	0.4462	0.2814	0.1295	0.3097	1.67%	0.77%	1.84%	2.391
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	13	13	3.576	0.3287	0.3247	0.0728	0.3327	9.08%	2.03%	9.30%	4.573
003.06	Fat, Crude, Pet Ether (%)	17	15	3.682	0.7045	0.4737	0.1058	0.4853	13.33%	2.98%	13.66%	4.589
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	11	10	3.537	0.1374	0.0574	0.0905	0.1072	1.64%	2.58%	3.06%	1.184
003.10	Fat, Crude, Randall, Pet Ether (%)	30	29	3.242	0.2400	0.1841	0.0711	0.1973	5.73%	2.21%	6.14%	2.777
003.13	Fat, Crude, Randall, Hexane Ext. (%)	9	8	3.447	0.3610	0.2029	0.0903	0.2221	6.06%	2.70%	6.64%	2.459
003.14	Fat, Crude, Ankom (%)	51	47	3.209	0.2816	0.2155	0.1007	0.2379	6.69%	3.13%	7.38%	2.361
004.00	Fiber, Crude, Asbestos Free (%)	13	13	13.57	0.5946	0.5749	0.2149	0.6137	4.24%	1.58%	4.52%	2.856
004.06	Fiber, Crude, Fibertec (%)	22	20	13.51	0.4721	0.4838	0.0880	0.4918	3.57%	0.65%	3.63%	5.586
004.07	Fiber, Crude, ANKOM (%)	67	64	13.75	1.476	1.164	0.2500	1.190	8.55%	1.84%	8.75%	4.761
005.00	Ash, 2h @ 600°C (%)	94	85	10.37	0.3319	0.3085	0.0795	0.3186	2.97%	0.77%	3.07%	4.008
005.05	Ash, 3h @ 550°C (%)	37	32	10.67	0.2941	0.2154	0.0656	0.2252	2.02%	0.62%	2.11%	3.432
008.02	Fiber, Acid Detergent, Crucible (%)	18	16	17.89	1.285	0.9706	0.1625	0.9841	5.37%	0.90%	5.44%	6.058
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	41	37	17.99	1.167	1.188	0.2214	1.209	6.61%	1.23%	6.72%	5.459
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	16	14	36.45	2.230	1.369	0.4278	1.434	3.81%	1.19%	3.99%	3.352
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	42	38	34.92	1.722	1.480	0.3512	1.521	4.25%	1.01%	4.37%	4.331
010.99	Moisture, Miscellaneous (%)	14	12	8.418	0.6007	0.3739	0.0478	0.3770	4.51%	0.58%	4.55%	7.882
011.01	Loss on Drying, 135°C 2hr (%)	66	61	8.970	0.6613	0.4135	0.0781	0.4208	4.56%	0.86%	4.64%	5.391
012.00	Starch, Polarimetric (Ewers) (%)	14	12	16.66	0.6446	0.3936	0.1535	0.4224	2.38%	0.93%	2.56%	2.752
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	12	11	15.78	1.085	0.7044	0.4298	0.8252	4.53%	2.77%	5.31%	1.920
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	19	18	4.279	0.5296	0.5346	0.1057	0.5450	12.45%	2.46%	12.69%	5.155
013.02	Fat, Acid Pretreat, Mojonier, Bak Ext (%)	19	17	4.918	0.6452	0.4023	0.1240	0.4210	8.32%	2.56%	8.71%	3.395
019.00	Calcium, Ox-Mn04 Vol. (%)	11	11	2.075	0.0530	0.0467	0.0355	0.0587	2.25%	1.71%	2.83%	1.651
019.08	Calcium, EDTA (%)	13	10	2.003	0.2513	0.1593	0.0334	0.1628	7.78%	1.63%	7.95%	4.873
019.31	Calcium, AAS, Dry ash (%)	21	20	2.048	0.1154	0.1129	0.0382	0.1192	5.50%	1.86%	5.80%	3.123
019.41	Calcium, ICP, Dry ash (%)	29	27	2.055	0.1009	0.0823	0.0375	0.0904	3.98%	1.82%	4.37%	2.409
019.42	Calcium, ICP, Open vessel (%)	20	17	2.066	0.0950	0.0713	0.0382	0.0809	3.42%	1.84%	3.89%	2.115
019.43	Calcium, ICP, Microwave (%)	27	23	2.061	0.1316	0.0701	0.0362	0.0788	3.40%	1.76%	3.83%	2.180
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	10	9	52.02	11.35	6.776	2.048	7.079	12.33%	3.73%	12.88%	3.456

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
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	23	20	54.53	8.834	8.883	2.235	9.160	16.24%	4.09%	16.74%	4.098
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	18	16	71.29	4.429	4.155	1.341	4.366	5.88%	1.90%	6.18%	3.256
022.43	Copper, ICP, Microwave (mg / kg (ppm))	25	24	66.44	12.78	6.969	2.028	7.259	10.16%	2.96%	10.58%	3.579
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	12	10	375.7	100.4	47.15	6.233	47.56	11.71%	1.55%	11.81%	7.631
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	22	18	404.0	31.77	25.53	6.747	26.40	6.26%	1.65%	6.47%	3.913
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	15	13	384.6	97.04	47.51	13.33	49.35	11.72%	3.29%	12.17%	3.702
025.43	Iron, ICP, Microwave (mg / kg (ppm))	19	17	413.0	54.74	55.78	9.834	56.64	13.55%	2.39%	13.75%	5.760
027.41	Magnesium, ICP, Dry ash (%)	22	20	0.3800	0.0179	0.0137	0.0068	0.0153	3.59%	1.77%	4.00%	2.263
027.42	Magnesium, ICP, Open vessel (%)	18	15	0.3803	0.0217	0.0169	0.0057	0.0178	4.41%	1.48%	4.66%	3.147
027.43	Magnesium, ICP, Microwave (%)	22	20	0.3674	0.0448	0.0222	0.0121	0.0252	5.90%	3.21%	6.72%	2.089
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	11	10	259.4	131.4	63.42	5.828	63.69	28.29%	2.60%	28.41%	10.93
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	22	21	234.3	15.92	11.14	5.914	12.61	4.71%	2.50%	5.33%	2.132
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	17	15	258.0	19.58	13.41	4.457	14.13	5.27%	1.75%	5.56%	3.170
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	25	21	235.5	51.43	11.44	6.189	13.01	4.58%	2.48%	5.21%	2.102
031.01	Phosphorus, Photometric (%)	43	40	0.8997	0.0492	0.0364	0.0134	0.0388	4.02%	1.48%	4.28%	2.895
031.41	Phosphorus, ICP, Dry ash (%)	26	24	0.9178	0.0406	0.0312	0.0147	0.0345	3.42%	1.61%	3.78%	2.345
031.42	Phosphorus, ICP, Open vessel (%)	20	19	0.9096	0.0348	0.0310	0.0199	0.0369	3.42%	2.19%	4.06%	1.851
031.43	Phosphorus, ICP, Microwave (%)	24	21	0.9317	0.0519	0.0420	0.0138	0.0442	4.54%	1.50%	4.78%	3.195
032.31	Potassium, AAS, Dry ash (%)	10	10	0.9872	0.0949	0.0940	0.0189	0.0959	9.52%	1.91%	9.71%	5.073
032.41	Potassium, ICP, Dry ash (%)	24	23	0.9778	0.0623	0.0613	0.0213	0.0649	6.26%	2.18%	6.63%	3.044
032.42	Potassium, ICP, Open vessel (%)	19	17	1.043	0.0736	0.0381	0.0287	0.0477	3.71%	2.80%	4.64%	1.660
032.43	Potassium, ICP, Microwave (%)	22	20	0.9963	0.0713	0.0600	0.0247	0.0649	5.97%	2.46%	6.46%	2.628
033.00	Salt as chloride, Sol Cl (%)	24	23	1.469	0.0708	0.0606	0.0371	0.0710	4.14%	2.53%	4.85%	1.915
033.01	Salt as chloride, Poten Cl (%)	30	26	1.550	0.0464	0.0328	0.0129	0.0352	2.12%	0.83%	2.27%	2.730
035.31	Sodium, AAS, Dry ash (%)	16	16	0.3567	0.0327	0.0323	0.0071	0.0331	9.06%	2.00%	9.28%	4.644
035.41	Sodium, ICP, Dry ash (%)	22	21	0.3649	0.0248	0.0242	0.0074	0.0253	6.63%	2.02%	6.93%	3.429
035.42	Sodium, ICP, Open vessel (%)	16	16	0.3750	0.0218	0.0207	0.0097	0.0228	5.51%	2.59%	6.08%	2.353
035.43	Sodium, ICP, Microwave (%)	19	17	0.3757	0.0330	0.0254	0.0074	0.0265	6.68%	1.93%	6.95%	3.599
036.42	Sulfur, ICP, Open vessel (%)	20	19	0.3351	0.0221	0.0174	0.0089	0.0195	5.22%	2.69%	5.88%	2.185
036.43	Sulfur, ICP, Microwave (%)	16	14	0.3318	0.0304	0.0178	0.0112	0.0210	5.25%	3.31%	6.21%	1.877
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	11	10	252.4	75.18	26.44	8.132	27.67	9.66%	2.97%	10.11%	3.402
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	23	22	269.1	22.87	18.65	8.634	20.55	7.00%	3.24%	7.71%	2.380
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	17	17	301.8	17.14	14.97	11.80	19.06	4.96%	3.91%	6.32%	1.615
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	24	21	295.3	45.25	28.39	12.29	30.93	9.60%	4.16%	10.46%	2.518
106.02	Vitamin A, LC (KU / kg)	16	14	34.02	14.25	5.873	1.729	6.122	19.16%	5.64%	19.97%	3.542
109.02	Vitamin E, LC (IU / kg)	10	8	76.45	33.64	7.516	3.141	8.146	11.48%	4.79%	12.44%	2.594
120.00	Alanine, Post-col Ninhydrin Der (%)	23	20	0.7471	0.0363	0.0302	0.0092	0.0316	4.06%	1.24%	4.24%	3.419
121.00	Arginine, Post-col Ninhydrin Der (%)	23	22	1.067	0.0697	0.0590	0.0197	0.0622	5.57%	1.86%	5.87%	3.151
122.00	Aspartic, Post-col Ninhydrin Der (%)	23	23	1.146	0.0564	0.0550	0.0176	0.0578	4.80%	1.53%	5.04%	3.288
122.05	Aspartic, Pre-col AQC Der (%)	9	8	1.134	0.1084	0.0622	0.0391	0.0735	5.35%	3.37%	6.32%	1.878
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin (%)	22	20	0.3026	0.0286	0.0228	0.0047	0.0233	7.63%	1.57%	7.79%	4.962
125.00	Glutamic, Post-col Ninhydrin Der (%)	23	21	2.895	0.1471	0.1183	0.0316	0.1224	4.11%	1.10%	4.26%	3.878
125.05	Glutamic, Pre-col AQC Der (%)	9	8	2.853	0.1799	0.1576	0.0729	0.1736	5.46%	2.53%	6.02%	2.381

Test Material Code # 201924

Issue Date : 05/31/2019

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
126.00	Glycine, Post-col Ninhydrin Der (%)	23	21	0.7566	0.0349	0.0329	0.0112	0.0347	4.34%	1.47%	4.58%	3.114
126.05	Glycine, Pre-col AQC Der (%)	9	9	0.7648	0.0333	0.0287	0.0239	0.0373	3.75%	3.13%	4.88%	1.562
127.00	Histidine, Post-col Ninhydrin Der (%)	23	22	0.4083	0.0303	0.0184	0.0075	0.0199	4.57%	1.85%	4.93%	2.665
127.05	Histidine, Pre-col AQC Der (%)	9	9	0.4104	0.0287	0.0267	0.0149	0.0306	6.50%	3.63%	7.45%	2.049
128.00	Isoleucine, Post-col Ninhydrin Der (%)	23	23	0.4908	0.0534	0.0516	0.0193	0.0551	10.51%	3.94%	11.23%	2.853
128.05	Isoleucine, Pre-col AQC Der (%)	9	9	0.5003	0.0378	0.0372	0.0093	0.0383	7.43%	1.85%	7.66%	4.137
129.00	Leucine, Post-col Ninhydrin Der (%)	23	22	1.068	0.0485	0.0460	0.0161	0.0488	4.32%	1.51%	4.58%	3.024
129.05	Leucine, Pre-col AQC Der (%)	9	8	1.051	0.0516	0.0286	0.0230	0.0368	2.69%	2.16%	3.45%	1.595
130.00	L-Lysine, Post-col Ninhydrin Der (%)	24	24	0.6307	0.0343	0.0335	0.0109	0.0352	5.30%	1.73%	5.58%	3.231
130.05	L-Lysine, Pre-col AQC Der (%)	9	8	0.6422	0.0670	0.0399	0.0143	0.0424	6.04%	2.17%	6.42%	2.958
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	23	21	0.2324	0.0179	0.0141	0.0072	0.0158	6.13%	3.12%	6.88%	2.207
131.05	Methionine, PAO Pre-col AQC Der (%)	10	10	0.2234	0.0298	0.0292	0.0082	0.0303	13.08%	3.69%	13.59%	3.687
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	23	22	0.6711	0.0481	0.0463	0.0118	0.0478	6.93%	1.76%	7.15%	4.058
132.05	Phenylalanine, Pre-col AQC Der (%)	9	9	0.6588	0.0412	0.0398	0.0149	0.0425	6.05%	2.27%	6.46%	2.848
133.00	Proline, Post-col Ninhydrin Der (%)	23	21	0.9811	0.1372	0.0731	0.0147	0.0746	7.64%	1.53%	7.80%	5.083
134.00	Serine, Post-col Ninhydrin Der (%)	23	22	0.6886	0.0426	0.0339	0.0104	0.0354	4.88%	1.50%	5.11%	3.396
134.05	Serine, Pre-col AQC Der (%)	9	9	0.6958	0.0441	0.0415	0.0210	0.0465	5.96%	3.02%	6.69%	2.211
135.00	Threonine, Post-col Ninhydrin Der (%)	23	23	0.5133	0.0225	0.0214	0.0098	0.0235	4.16%	1.91%	4.58%	2.393
135.05	Threonine, Pre-col AQC Der (%)	9	9	0.5016	0.0389	0.0375	0.0144	0.0402	7.48%	2.87%	8.01%	2.789
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	8	8	0.2126	0.0250	0.0240	0.0099	0.0260	11.30%	4.67%	12.23%	2.620
137.00	Tyrosine, Post-col Ninhydrin Der (%)	17	17	0.4243	0.0513	0.0506	0.0120	0.0520	11.92%	2.83%	12.25%	4.328
137.05	Tyrosine, Pre-col AQC Der (%)	9	8	0.4680	0.0568	0.0520	0.0172	0.0548	10.90%	3.61%	11.49%	3.178
138.00	Valine, Post-col Ninhydrin Der (%)	23	22	0.6800	0.0644	0.0504	0.0160	0.0529	7.32%	2.32%	7.68%	3.313
138.05	Valine, Pre-col AQC Der (%)	9	9	0.7091	0.0411	0.0403	0.0114	0.0419	5.69%	1.61%	5.91%	3.675
365.03	Monensin, LC-PCD (mg/kg (ppm))	8	8	24.13	1.542	1.529	0.2757	1.554	6.34%	1.14%	6.44%	5.636

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