AAFCO Proficiency Testing Program

AAFCO PTP Animal Feed Scheme

Animal Feed Scheme
Swine Feed, Medicated
Test Material Code # 201725

Method Summary Report

(Precision Report Follows)

 # Methods Reported: 364
 # Labs Reporting: 195
Issue Date : 06/30/2017

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	0.30000							
001.00	Loss on Drying, Vac 95°C 5 hr (%)	6	6	9.4262	0.82401	9.4262	0.93443	0.47685	9.91%	0.15645	2.85%
001.03	Loss on Drying, Low temp. methods (%)	7	6	8.7690	0.18820	8.7690	0.21342	0.10891	2.43%	0.03312	2.88%
001.05	Loss on Drying, LECO (%)	2	2	8.5600	0.17678						
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	39	37	9.0901	0.72466	9.0636	0.50641	0.10407	5.59%	0.12238	2.87%
001.08	Loss on Drying, 102°C 16 hr, in meat (%)	2	2	9.2125	0.19445						
001.99	Loss on Drying, Miscellaneous (%)	20	20	8.9065	0.82612	8.9530	0.73093	0.20430	8.16%	0.11697	2.88%
002.00	Protein, Crude (%)	2	2	21.008	0.18738						
002.01	Protein, Auto Kjel-Foss (%)	14	12	20.739	0.32998	20.742	0.36803	0.13280	1.77%	0.15417	2.20%
002.02	Protein, Semiauto Autoanalyzer (%)	3	3	20.983	0.45760	20.983	0.45760	0.26420	2.18%	0.11417	2.18%
002.04	Protein, Copper Catalyst (%)	6	6	21.349	1.1303	21.127	0.72069	0.36777	3.41%	0.23500	2.18%
002.05	Protein, Copper, Boric Acid (%)	37	37	21.058	0.26612	21.054	0.24937	0.05125	1.18%	0.10902	2.18%
002.06	Protein, Combustion Nitrogen Analyzer (%)	120	118	21.289	0.43160	21.277	0.29479	0.03392	1.39%	0.20886	2.17%
002.08	Protein, Cu/Ti (%)	2	2	20.938	0.23688						
002.10	Protein, Block dig/distillation (%)	2	2	21.148	0.06718						
002.11	Protein, NIR (%)	2	2	21.630	0.24042						
002.99	Protein, Miscellaneous (%)	2	2	22.330	1.2445						
003.00	Fat, Eth Ext., Direct (%)	13	13	6.8532	0.24940	6.8532	0.28282	0.09805	4.13%	0.07302	2.99%
003.01	Fat, Ind Eth Ext (13th ed.), Indirect (%)	1	1	5.6600							
003.06	Fat, Pet Ether (%)	20	20	6.6494	0.23264	6.6529	0.23245	0.06497	3.49%	0.09072	3.01%
003.09	Fat, Soxtec, Eth Ext (%)	18	17	6.5894	0.30955	6.5894	0.35103	0.10642	5.33%	0.08694	3.01%
003.10	Fat, Soxtec, Pet Ether (%)	30	28	6.4588	0.29190	6.4724	0.30033	0.07095	4.64%	0.10874	3.02%
003.11	Fat, NIR (%)	2	2	7.9475	0.24395						
003.12	Fat, Hexane Ext (%)	8	8	6.5761	0.20260	6.5761	0.22975	0.10154	3.49%	0.04715	3.01%
003.13	Fat, Soxtec, Hexane Ext. (%)	7	7	6.6857	0.26046	6.6857	0.29536	0.13954	4.42%	0.18857	3.01%
003.14	Fat, Ankom (%)	43	42	6.6653	0.33870	6.6631	0.28239	0.05447	4.24%	0.12695	3.01%
003.99	Fat, Miscellaneous (%)	4	4	7.3125	1.5572	7.3125	1.5572	0.77860	21.30%	0.22500	2.96%
004.00	Fiber, Crude, Asbestos Free (%)	18	17	1.8819	0.15273	1.8813	0.10400	0.03153	5.53%	0.07932	3.64%
004.01	Fiber, Sing Filt (%)	1	1	2.9000							
004.03	Fiber, Fritted Glass (%)	7	7	1.8201	0.21371	1.8201	0.24235	0.11450	13.32%	0.14121	3.65%

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004.06	Fiber, Fibertec (%)	26	25	1.9774	0.30921	1.9285	0.21800	0.05450	11.30%	0.07596	3.62%
004.07	Fiber, ANKOM (%)	64	64	1.7680	0.39485	1.7623	0.25661	0.04009	14.56%	0.12388	3.67%
004.11	Fiber, NIR (%)	1	1	9.9200							
004.99	Fiber, Miscellaneous (%)	3	3	1.5633	0.24705	1.5633	0.24705	0.17469	15.80%	0.10000	3.74%
005.00	Ash, 2h @ 600°C (%)	92	90	7.9628	0.12724	7.9602	0.11699	0.01541	1.47%	0.06423	2.93%
005.02	Ash, LECO (%)	2	2	8.3175	0.03889						
005.04	Ash, Acid insoluble (%)	1	1	0.20000							
005.05	Ash, 3h @ 550°C (%)	35	34	8.1043	0.10042	8.1051	0.10445	0.02239	1.29%	0.02714	2.92%
005.11	Ash, NIR (%)	2	2	7.5825	1.7359						
005.99	Ash, Miscellaneous (%)	10	9	8.1083	0.14416	8.0953	0.13157	0.05482	1.63%	0.07444	2.92%
006.00	Total sugars, As sucrose (%)	2	2	19.315	0.23335						
006.01	Total sugars, Mod. Fehling Soln (%)	1	1	23.685							
006.99	Total sugars, Miscellaneous (%)	1	1	19.150							
008.02	Fiber, Acid Detergent (%)	15	15	2.8754	0.82742	2.7000	0.39936	0.12889	14.79%	0.17037	3.44%
008.05	Fiber, Acid Detergent-Hach (%)	1	1	3.0000							
008.08	Fiber, Acid Detergent, ANKOM (%)	43	42	2.6897	0.53007	2.6515	0.46416	0.08953	17.51%	0.21107	3.45%
008.99	Fiber, Acid Detergent Miscellaneous (%)	2	2	3.2375	1.1844						
009.04	Fiber, Neutral Det-No ENZ Pretreat (%)	1	1	5.7350							
009.07	Fiber, Neutral Det-ENZ Pretreat (%)	12	12	6.8787	1.3197	6.8787	1.4966	0.54003	21.76%	0.47089	2.99%
009.09	Fiber, Neutral Detergent, ANKOM (%)	42	41	6.0655	1.4412	5.7475	0.71159	0.13892	12.38%	0.20458	3.07%
009.99	Fiber, Neutral Det Miscellaneous (%)	2	2	8.6275	2.2380						
010.03	Moisture, Karl-Fischer (%)	3	3	8.7917	0.15830	8.7917	0.15830	0.09139	1.80%	0.20333	2.88%
010.11	Moisture, NIR (%)	1	1	9.2700							
010.99	Moisture, Miscellaneous (%)	16	15	9.3147	0.88027	9.2708	0.81591	0.26334	8.80%	0.10400	2.86%
011.01	Loss on Drying, 135°C 2hr (%)	68	67	11.271	0.85229	11.296	0.67301	0.10278	5.96%	0.16307	2.78%
011.02	Loss on Drying, 130°C for 2 hours (%)	3	3	10.748	0.34338	10.748	0.34338	0.19825	3.19%	0.46333	2.80%
011.99	Loss on Drying, High Temp. Methods Miscellaneo	3	3	10.070	0.58000	10.070	0.58000	0.33486	5.76%	0.08000	2.83%
012.00	Starch, Polarimetric (Ewers) (%)	10	10	20.620	2.2523	20.209	1.6360	0.64668	8.10%	0.17682	2.22%
012.01	Starch, Megazyme (%)	9	9	18.280	1.7003	18.555	1.1943	0.49762	6.44%	0.31454	2.32%
012.03	Starch, Enzymatic (%)	5	5	18.812	1.4390	18.812	1.4390	0.64354	7.65%	0.20694	2.31%
012.04	Starch, YSI Analyzer (%)	4	4	17.698	3.2588	17.698	3.2588	1.6294	18.41%	0.22000	2.38%
012.11	Starch, NIR (%)	2	2	19.893	0.35709						
013.00	Fat, Acid hydrolysis (%)	18	17	8.0022	0.61857	7.9867	0.66671	0.20213	8.35%	0.09262	2.93%
013.02	Fat, Mojonnier, Bak Ext (%)	17	17	8.5654	0.63548	8.6009	0.62276	0.18880	7.24%	0.19724	2.89%
013.08	Fat, Roese-Gottlieb Modified (%)	1	1	6.8800							
013.10	Fat, Soxtec-Acid Hydrolysis (%)	4	4	7.8073	0.39920	7.8073	0.39920	0.19960	5.11%	0.23520	2.94%
013.13	Fat, Ankom- Acid Hydrolysis (%)	6	5	7.5352	0.65982	7.5352	0.65982	0.36885	8.76%	0.19760	2.95%
015.41	Aluminum, ICP, Dry ash (mg / kg (ppm))	4	4	265.24	118.83	265.24	118.83	59.415	44.80%	12.545	6.91%

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015.42	Aluminum, ICP, Open vessel (mg / kg (ppm))	1	1	182.20							
015.43	Aluminum, ICP, Microwave (mg / kg (ppm))	6	5	185.21	37.247	185.21	37.247	20.822	20.11%	6.6654	7.29%
015.52	Aluminum, ICP-MS, Open vessel (mg / kg (ppm))	1	1	95.500							
015.53	Aluminum, ICP-MS, Microwave (mg / kg (ppm))	1	1	216.50							
017.41	Boron, ICP, Dry ash (mg / kg (ppm))	3	3	11.868	0.64537	11.868	0.64537	0.37260	5.44%	0.72333	11.02%
017.42	Boron, ICP, Open vessel (mg / kg (ppm))	5	5	11.941	0.90245	11.941	0.90245	0.45123	7.56%	0.60458	11.01%
017.43	Boron, ICP, Microwave (mg / kg (ppm))	5	5	10.714	2.6532	10.714	2.6532	1.5318	24.76%	0.66400	11.19%
019.00	Calcium, Ox-Mn04 Vol. (%)	19	18	1.0502	0.04217	1.0512	0.04347	0.01281	4.13%	0.02749	3.97%
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	1.1512							
019.08	Calcium, EDTA (%)	7	7	1.1416	0.07711	1.1416	0.08745	0.04132	7.66%	0.03383	3.92%
019.09	Calcium, Ion-selective electrode (%)	1	1	1.0560							
019.31	Calcium, AAS, Dry ash (%)	24	22	1.0535	0.06721	1.0565	0.05913	0.01576	5.60%	0.02484	3.97%
019.32	Calcium, AAS, Open vessel (%)	5	5	1.1264	0.05070	1.1264	0.05070	0.02267	4.50%	0.01246	3.93%
019.33	Calcium, AAS, Microwave (%)	2	2	1.1338	0.11137						
019.41	Calcium, ICP, Dry ash (%)	26	25	1.1000	0.09731	1.0879	0.06845	0.01711	6.29%	0.02513	3.95%
019.42	Calcium, ICP, Open vessel (%)	22	21	1.1239	0.09103	1.1272	0.08371	0.02283	7.43%	0.02818	3.93%
019.43	Calcium, ICP, Microwave (%)	26	25	1.0877	0.05405	1.0887	0.05903	0.01476	5.42%	0.02948	3.95%
019.44	Calcium, ICP, Dry ash (%)	3	3	1.0800	0.02000	1.0800	0.02000	0.01155	1.85%	0.02000	3.95%
019.51	Calcium, ICP-MS, Dry ash (%)	1	1	1.1250							
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	1.0116	0.03824	1.0116	0.03824	0.02208	3.78%	0.01880	3.99%
019.53	Calcium, ICP-MS, Microwave (%)	3	3	1.1122	0.08753	1.1122	0.08753	0.05054	7.87%	0.10657	3.94%
019.99	Calcium, Miscellaneous (%)	3	3	0.96167	0.33100	0.96167	0.33100	0.19110	34.42%	0.06333	4.02%
021.31	Cobalt, AAS, Dry ash (mg / kg (ppm))	2	2	6.7000	0.49497						
021.41	Cobalt, ICP, Dry ash (mg / kg (ppm))	1	1	5.5000							
021.42	Cobalt, ICP, Open vessel (mg / kg (ppm))	3	3	6.3051	0.47190	6.3051	0.47190	0.33368	7.48%	0.23070	12.12%
021.43	Cobalt, ICP, Microwave (mg / kg (ppm))	5	4	6.2000	0.33993	6.2000	0.33993	0.16997	5.48%	0.04500	12.16%
021.52	Cobalt, ICP-MS, Open vessel (mg / kg (ppm))	2	2	6.5475	0.27931						
021.53	Cobalt, ICP-MS, Microwave (mg / kg (ppm))	4	4	6.7916	0.60101	6.7916	0.60101	0.30051	8.85%	0.57005	11.99%
021.99	Cobalt, Miscellaneous (mg / kg (ppm))	1	1	7.7450							
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	17	16	86.839	8.3606	87.676	4.7786	1.4933	5.45%	1.7663	8.16%
022.32	Copper, AAS, Open vessel (mg / kg (ppm))	2	2	94.560	3.4507						
022.33	Copper, AAS, Microwave (mg / kg (ppm))	4	4	95.488	4.3589	95.488	4.3589	2.1795	4.56%	0.97150	8.05%
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	20	19	88.298	5.9250	87.787	5.4832	1.5724	6.25%	3.5099	8.16%
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	23	21	93.301	10.220	94.732	6.4498	1.7593	6.81%	3.4974	8.06%
022.43	Copper, ICP, Microwave (mg / kg (ppm))	23	22	91.499	5.6954	91.472	5.2988	1.4121	5.79%	2.9620	8.11%
022.44	Copper, ICP, Dry ash (mg / kg (ppm))	2	2	88.550	11.102						
022.51	Copper, ICP-MS, Dry ash (mg / kg (ppm))	1	1	103.95							
022.52	Copper, ICP-MS, Open vessel (mg / kg (ppm))	2	2	91.450	2.7577						

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022.53	Copper, ICP-MS, Microwave (mg / kg (ppm))	3	3	86.267	10.214	86.267	10.214	5.8971	11.84%	6.2000	8.18%
022.99	Copper, Miscellaneous (mg / kg (ppm))	3	3	91.810	4.2635	91.810	4.2635	2.4615	4.64%	2.6333	8.10%
023.01	Fluorine, Ion Sel Elect (mg / kg (ppm))	1	1	15.650							
024.01	Iodine, Elm-Cald (mg / kg (ppm))	1	1	17.500							
024.52	Iodine, ICP-MS, Open vessel (mg / kg (ppm))	1	1	31.000							
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	15	15	596.79	55.651	600.84	38.057	12.283	6.33%	19.688	6.11%
025.32	Iron, AAS, Open vessel (mg / kg (ppm))	2	2	625.45	79.125						
025.33	Iron, AAS, Microwave (mg / kg (ppm))	2	2	633.23	13.057						
025.34	Iron, AAS, Dry ash (mg / kg (ppm))	1	1	579.25							
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	23	22	600.37	62.662	599.08	58.013	15.461	9.68%	23.044	6.11%
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	19	18	537.07	151.25	551.64	133.33	39.284	24.17%	21.123	6.19%
025.43	Iron, ICP, Microwave (mg / kg (ppm))	21	19	574.98	54.246	582.45	39.995	11.469	6.87%	13.269	6.14%
025.51	Iron, ICP-MS, Dry ash (mg / kg (ppm))	1	1	621.05							
025.52	Iron, ICP-MS, Open vessel (mg / kg (ppm))	3	3	403.84	120.60	403.84	120.60	69.628	29.86%	35.387	6.48%
025.53	Iron, ICP-MS, Microwave (mg / kg (ppm))	2	2	424.25	266.93						
025.99	Iron, Miscellaneous (mg / kg (ppm))	2	2	599.50	28.991						
027.31	Magnesium, AAS, Dry ash (%)	16	14	0.22782	0.01067	0.22844	0.01065	0.00356	4.66%	0.00725	4.99%
027.32	Magnesium, AAS, Open vessel (%)	4	4	0.23796	0.00914	0.23796	0.00914	0.00528	3.84%	0.00068	4.96%
027.33	Magnesium, AAS, Microwave (%)	3	3	0.22800	0.01744	0.22800	0.01744	0.01233	7.65%	0.00133	5.00%
027.41	Magnesium, ICP, Dry ash (%)	22	21	0.24766	0.03855	0.24060	0.01227	0.00335	5.10%	0.00627	4.96%
027.42	Magnesium, ICP, Open vessel (%)	22	21	0.24196	0.02628	0.24244	0.01524	0.00416	6.29%	0.00587	4.95%
027.43	Magnesium, ICP, Microwave (%)	23	22	0.23671	0.01642	0.23594	0.01518	0.00405	6.43%	0.00626	4.97%
027.44	Magnesium, ICP, Dry ash (%)	2	2	0.23475	0.00389						
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.24150							
027.52	Magnesium, ICP-MS, Open vessel (%)	3	3	0.23125	0.00175	0.23125	0.00175	0.00101	0.76%	0.00543	4.99%
027.53	Magnesium, ICP-MS, Microwave (%)	3	3	0.23908	0.01628	0.23908	0.01628	0.00940	6.81%	0.01230	4.96%
027.99	Magnesium, Miscellaneous (%)	2	2	0.23500	0.02121						
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	14	13	172.14	7.8381	172.14	8.8884	3.0815	5.16%	4.2084	7.37%
028.32	Manganese, AAS, Open vessel (mg / kg (ppm))	2	2	189.25	11.667						
028.33	Manganese, AAS, Microwave (mg / kg (ppm))	2	2	172.13	0.03536						
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	19	173.14	12.491	174.72	9.0642	2.5993	5.19%	3.9755	7.35%
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	22	21	184.95	20.074	186.26	18.807	5.1299	10.10%	9.6903	7.28%
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	23	22	178.91	9.6431	179.05	10.478	2.7923	5.85%	7.4978	7.33%
028.44	Manganese, ICP, Dry ash (mg / kg (ppm))	2	2	166.00	16.263						
028.51	Manganese, ICP-MS, Dry ash (mg / kg (ppm))	1	1	219.80							
028.52	Manganese, ICP-MS, Open vessel (mg / kg (ppm)	2	2	188.07	21.305						
028.53	Manganese, ICP-MS, Microwave (mg / kg (ppm))	3	3	174.65	5.8217	174.65	5.8217	3.3612	3.33%	14.367	7.36%
028.99	Manganese, Miscellaneous (mg / kg (ppm))	3	3	174.17	7.9739	174.17	7.9739	4.6037	4.58%	7.6667	7.36%

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031.00	Phosphorus, Vol (%)	2	2	0.75750	0.03182						
031.01	Phosphorus, Photometric (%)	43	42	0.71052	0.04019	0.71368	0.03104	0.00599	4.35%	0.01791	4.21%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%	3	3	0.73500	0.00866	0.73500	0.00866	0.00612	1.18%	0.01000	4.19%
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.73027	0.01001	0.73027	0.01001	0.00708	1.37%	0.00320	4.19%
031.06	Phosphorus, Hach Method (%)	1	1	0.55000							
031.41	Phosphorus, ICP, Dry ash (%)	25	25	0.73456	0.05229	0.73486	0.04712	0.01178	6.41%	0.01211	4.19%
031.42	Phosphorus, ICP, Open vessel (%)	22	21	0.71409	0.04745	0.71261	0.04796	0.01308	6.73%	0.02049	4.21%
031.43	Phosphorus, ICP, Microwave (%)	25	25	0.71745	0.04146	0.71719	0.04354	0.01089	6.07%	0.01668	4.20%
031.44	Phosphorus, ICP, Dry ash (%)	3	3	0.72500	0.01303	0.72500	0.01303	0.00752	1.80%	0.01933	4.20%
031.51	Phosphorus, ICP-MS, Dry ash (%)	1	1	0.73400							
031.52	Phosphorus, ICP-MS, Open vessel (%)	2	2	0.68880	0.01598						
031.53	Phosphorus, ICP-MS, Microwave (%)	3	3	0.71472	0.08035	0.71472	0.08035	0.04639	11.24%	0.02997	4.21%
031.99	Phosphorus, Miscellaneous (%)	1	1	0.68000							
032.02	Potassium, Flame Emission (%)	1	1	1.3500							
032.31	Potassium, AAS, Dry ash (%)	17	17	1.3726	0.20898	1.3310	0.07501	0.02274	5.64%	0.05326	3.83%
032.32	Potassium, AAS, Open vessel (%)	3	3	1.3796	0.07326	1.3796	0.07326	0.04230	5.31%	0.01033	3.81%
032.41	Potassium, ICP, Dry ash (%)	23	21	1.3795	0.07934	1.3714	0.06975	0.01903	5.09%	0.03106	3.81%
032.42	Potassium, ICP, Open vessel (%)	22	22	1.3836	0.12430	1.3896	0.06964	0.01856	5.01%	0.02542	3.81%
032.43	Potassium, ICP, Microwave (%)	27	26	1.3561	0.07229	1.3517	0.06314	0.01548	4.67%	0.02765	3.82%
032.44	Potassium, ICP, Dry ash (%)	2	2	1.4100	0.06364						
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	1.3420							
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	1.3423	0.01800						
032.53	Potassium, ICP-MS, Microwave (%)	3	3	1.4023	0.07430	1.4023	0.07430	0.04290	5.30%	0.02430	3.80%
032.99	Potassium, Miscellaneous (%)	3	3	1.3867	0.08098	1.3867	0.08098	0.04675	5.84%	0.01333	3.81%
033.00	Salt as chloride, Sol Cl (%)	25	24	1.5569	0.05861	1.5602	0.05809	0.01482	3.72%	0.01583	3.74%
033.01	Salt as chloride, Poten Cl (%)	29	28	1.6084	0.06023	1.6194	0.02985	0.00705	1.84%	0.01590	3.72%
033.03	Salt as chloride, Quantab (%)	5	5	1.6190	0.08377	1.6190	0.08377	0.03746	5.17%	0.05400	3.72%
033.05	Salt as chloride, Ion Sel Electrode (%)	2	2	1.5925	0.01768						
033.99	Salt, Miscellaneous (%)	7	7	1.5300	0.14233	1.5372	0.14462	0.06833	9.41%	0.02286	3.75%
034.04	Selenium, AA, Hydride (mg / kg (ppm))	7	7	1.5841	0.64304	1.6571	0.55035	0.26001	33.21%	0.04390	14.83%
034.41	Selenium, ICP, Dry ash (mg / kg (ppm))	2	2	1.7275	0.03182						
034.42	Selenium, ICP, Open vessel (mg / kg (ppm))	1	1	1.8000							
034.43	Selenium, ICP, Microwave (mg / kg (ppm))	2	2	1.8053	0.72160						
034.52	Selenium, ICP-MS, Open vessel (mg / kg (ppm))	4	4	2.1400	0.18713	2.1400	0.18713	0.09357	8.74%	0.04000	14.27%
034.53	Selenium, ICP-MS, Microwave (mg / kg (ppm))	4	4	2.0310	0.25176	2.0310	0.25176	0.12588	12.40%	0.17295	14.38%
034.99	Selenium, Miscellaneous (mg / kg (ppm))	1	1	2.0900							
035.01	Sodium, Ion-selective electrode (%)	1	1	0.48000							
035.05	Sodium, Flame Emission (%)	4	4	0.53363	0.03827	0.53363	0.03827	0.01914	7.17%	0.01525	4.40%

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035.31	Sodium, AAS, Dry ash (%)	19	18	0.49863	0.07449	0.48230	0.03936	0.01160	8.16%	0.01266	4.46%
035.32	Sodium, AAS, Open vessel (%)	3	3	0.51443	0.02861	0.51443	0.02861	0.02023	5.56%	0.00380	4.42%
035.41	Sodium, ICP, Dry ash (%)	24	24	0.50024	0.08671	0.49906	0.03505	0.00894	7.02%	0.01092	4.44%
035.42	Sodium, ICP, Open vessel (%)	17	16	0.50550	0.02798	0.50379	0.02588	0.00809	5.14%	0.01546	4.43%
035.43	Sodium, ICP, Microwave (%)	21	21	0.48139	0.02878	0.48443	0.02253	0.00615	4.65%	0.01845	4.46%
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.49400							
035.52	Sodium, ICP-MS, Open vessel (%)	2	2	0.50043	0.00293						
035.53	Sodium, ICP-MS, Microwave (%)	4	4	0.53055	0.03161	0.53055	0.03161	0.01581	5.96%	0.02660	4.40%
035.99	Sodium, Miscellaneous (%)	4	4	0.50375	0.01493	0.50375	0.01493	0.00862	2.96%	0.01750	4.43%
036.04	Sulfur, LECO (%)	3	3	0.28333	0.05965	0.28333	0.05965	0.03444	21.05%	0.01333	4.84%
036.42	Sulfur, ICP, Open vessel (%)	18	16	0.30213	0.01880	0.29981	0.01554	0.00486	5.18%	0.00853	4.79%
036.43	Sulfur, ICP, Microwave (%)	11	10	0.29323	0.01746	0.29323	0.01980	0.00783	6.75%	0.01560	4.81%
036.52	Sulfur, ICP-MS, Open vessel (%)	2	2	0.29450	0.01556						
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.31850							
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	18	18	3,176.6	894.80	3,424.2	220.53	64.973	6.44%	44.391	4.70%
037.32	Zinc, AAS, Open vessel (mg / kg (ppm))	2	2	3,534.0	67.175						
037.33	Zinc, AAS, Microwave (mg / kg (ppm))	3	3	3,530.7	62.158	3,530.7	62.158	35.887	1.76%	16.504	4.68%
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	21	21	3,399.8	606.55	3,544.2	206.52	56.334	5.83%	65.783	4.68%
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	21	19	3,339.3	788.16	3,482.2	267.07	76.589	7.67%	82.602	4.69%
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	25	24	3,461.9	263.91	3,462.3	298.47	76.155	8.62%	93.009	4.69%
037.44	Zinc, ICP, Dry ash (mg / kg (ppm))	2	2	3,352.8	102.18						
037.52	Zinc, ICP-MS, Open vessel (mg / kg (ppm))	2	2	3,216.4	355.82						
037.53	Zinc, ICP-MS, Microwave (mg / kg (ppm))	3	3	3,539.7	333.14	3,539.7	333.14	192.34	9.41%	168.67	4.68%
037.99	Zinc, Miscellaneous (mg / kg (ppm))	4	4	3,661.9	145.90	3,661.9	145.90	72.950	3.98%	139.25	4.65%
038.41	Molybdenum, ICP, Dry ash (mg / kg (ppm))	2	2	1.1825	0.39952						
038.42	Molybdenum, ICP, Open vessel (mg / kg (ppm))	4	4	1.9416	0.32204	1.9416	0.32204	0.16102	16.59%	0.40195	14.48%
038.43	Molybdenum, ICP, Microwave (mg / kg (ppm))	5	4	1.5816	0.23820	1.5816	0.23820	0.11910	15.06%	0.08215	14.93%
038.52	Molybdenum, ICP-MS, Open vessel (mg / kg (ppm	2	2	1.4925	0.07425						
038.53	Molybdenum, ICP-MS, Microwave (mg / kg (ppm))	4	4	1.5861	0.18003	1.5861	0.18003	0.09002	11.35%	0.15045	14.92%
040.42	Barium, ICP, Open vessel (mg / kg (ppm))	1	1	9.9600							
040.53	Barium, ICP-MS, Microwave (mg / kg (ppm))	1	1	9.6267							
041.53	Vanadium, ICP-MS, Microwave (mg / kg (ppm))	1	1	1.2350							
042.00	Chloride, Titrimetric (%)	2	2	0.96500	0.14849						
042.02	Chloride, Ion Chromatography (%)	1	1	0.94500							
101.00	Choline Chloride, Microbiological (mg / kg (ppm))	2	2	2,473.9	609.60						
101.01	Choline Chloride, Chem (mg / kg (ppm))	1	1	2,735.0							
101.02	Choline Chloride, LC (mg / kg (ppm))	1	1	1,448.0							
102.01	Niacin, Microbiological (mg / kg (ppm))	1	1	112.00							

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102.02	Niacin, LC (mg / kg (ppm))	1	1	152.79							
103.01	Pantothenic Acid, Microbiological (mg / kg (ppm))	1	1	55.750							
103.02	Pantothenic Acid, LC (mg / kg (ppm))	1	1	68.950							
104.00	Riboflavin, Fluorometric (mg / kg (ppm))	2	2	19.825	2.6517						
104.03	Riboflavin, LC (mg / kg (ppm))	2	2	18.105	1.6900						
105.00	Thiamine, LC (mg / kg (ppm))	3	3	6.1185	1.0278	6.1185	1.0278	0.59340	16.80%	0.40100	12.18%
105.01	Thiamine, Fluorometer (mg / kg (ppm))	1	1	9.4100							
106.00	Vitamin A, Color (KU / kg)	2	2	10,501	14,784						
106.01	Vitamin A, UV (KU / kg)	1	1	67.000							
106.02	Vitamin A, LC (KU / kg)	21	20	35.780	15.083	34.755	13.003	3.6345	37.41%	2.4538	
107.00	Vitamin B12, Microbiological (µg / kg (ppb))	1	1	93.650							
108.01	Vitamin D3, LC, AOAC (KU / kg)	1	1	6.5000							
108.02	Vitamin D3, LC (KU / kg)	6	6	8.6617	2.7617	8.6617	3.1318	1.5982	36.16%	2.2967	
108.99	Vitamin D3, Miscellaneous (KU / kg)	1	1	11.600							
109.02	Vitamin E, LC (IU/kg)	21	20	182.24	49.412	188.93	21.069	5.8890	11.15%	7.4901	
109.99	Vitamin E, Miscellaneous (IU/kg)	1	1	158.50							
112.01	Pyridoxine, LC (µg / g)	1	1	7.1850							
113.01	Folic Acid, Micro (mg / kg (ppm))	1	1	3.4900							
114.01	Biotin, Microbiological (mg / kg (ppm))	1	1	1.7850							
120.00	Alanine, Post-col Ninhydrin Der (%)	20	20	1.0400	0.03432	1.0375	0.02360	0.00660	2.27%	0.01771	3.98%
120.02	Alanine, Post-col OPA Der (%)	1	1	1.0555							
120.05	Alanine, Pre-col AQC Der (%)	4	4	0.97488	0.02292	0.97488	0.02292	0.01146	2.35%	0.03475	4.02%
120.99	Alanine, Miscellaneous (%)	1	1	1.1100							
121.00	Arginine, Post-col Ninhydrin Der (%)	20	20	1.2752	0.05825	1.2695	0.03802	0.01063	2.99%	0.02140	3.86%
121.02	Arginine, Post-col OPA Der (%)	1	1	1.3035							
121.05	Arginine, Pre-col AQC Der (%)	4	4	1.2349	0.07739	1.2349	0.07739	0.03870	6.27%	0.08825	3.87%
121.99	Arginine, Miscellaneous (%)	1	1	1.3500							
122.00	Aspartic, Post-col Ninhydrin Der (%)	20	20	2.0197	0.05884	2.0214	0.05351	0.01496	2.65%	0.02358	3.60%
122.02	Aspartic, Post-col OPA Der (%)	1	1	2.0675							
122.05	Aspartic, Pre-col AQC Der (%)	4	4	1.9776	0.04423	1.9776	0.04423	0.02212	2.24%	0.09075	3.61%
122.99	Aspartic, Miscellaneous (%)	1	1	1.9950							
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	20	20	0.30746	0.01910	0.30961	0.01558	0.00436	5.03%	0.00560	4.77%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.32800							
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	3	3	0.35500	0.04093	0.35500	0.04093	0.02894	11.53%	0.01667	4.67%
124.99	Cysteine/Cystine, Miscellaneous (%)	1	1	0.29000							
125.00	Glutamic, Post-col Ninhydrin Der (%)	20	20	3.3929	0.15212	3.3758	0.10372	0.02899	3.07%	0.04597	3.33%
125.02	Glutamic, Post-col OPA Der (%)	1	1	3.4395							
125.05	Glutamic, Pre-col AQC Der (%)	4	4	3.3175	0.06198	3.3175	0.06198	0.03099	1.87%	0.11750	3.34%

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125.99	Glutamic, Miscellaneous (%)	1	1	3.2150							
126.00	Glycine, Post-col Ninhydrin Der (%)	20	19	0.99554	0.03604	0.99036	0.02397	0.00687	2.42%	0.01118	4.01%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.99000							
126.05	Glycine, Pre-col AQC Der (%)	4	4	0.99038	0.05024	0.99038	0.05024	0.02512	5.07%	0.04375	4.01%
126.99	Glycine, Miscellaneous (%)	1	1	0.98000							
127.00	Histidine, Post-col Ninhydrin Der (%)	19	18	0.50187	0.03609	0.49367	0.01890	0.00557	3.83%	0.00767	4.45%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.47950							
127.05	Histidine, Pre-col AQC Der (%)	4	4	0.46950	0.03480	0.46950	0.03480	0.01740	7.41%	0.02450	4.48%
127.99	Histidine, Miscellaneous (%)	1	1	0.51000							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	20	19	0.86867	0.05619	0.86396	0.04585	0.01315	5.31%	0.01114	4.09%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.88500							
128.05	Isoleucine, Pre-col AQC Der (%)	4	4	0.80463	0.07258	0.80463	0.07258	0.03629	9.02%	0.03175	4.13%
128.99	Isoleucine, Miscellaneous (%)	1	1	0.91500							
129.00	Leucine, Post-col Ninhydrin Der (%)	20	20	1.5491	0.06895	1.5497	0.05305	0.01483	3.42%	0.01599	3.74%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.5735							
129.05	Leucine, Pre-col AQC Der (%)	4	4	1.5278	0.04911	1.5278	0.04911	0.02456	3.21%	0.03050	3.75%
129.99	Leucine, Miscellaneous (%)	1	1	1.6100							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	22	1.4391	0.08992	1.4378	0.04796	0.01278	3.34%	0.02080	3.79%
130.01	L-Lysine, Pre-col OPA Der (%)	1	1	1.2150							
130.02	L-Lysine, Post-col OPA Der (%)	1	1	1.5145							
130.05	L-Lysine, Pre-col AQC Der (%)	5	5	1.4129	0.03687	1.4129	0.03687	0.01649	2.61%	0.06660	3.80%
130.99	L-Lysine, Miscellaneous (%)	2	2	1.4100	0.09192						
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	20	20	0.39021	0.01645	0.39046	0.01733	0.00484	4.44%	0.00792	4.61%
131.01	Methionine, PAO Pre-col OPA Der (%)	1	1	0.42000							
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.37300							
131.05	Methionine, PAO Pre-col AQC Der (%)	4	4	0.36200	0.03416	0.36200	0.03416	0.01708	9.44%	0.01650	4.66%
131.99	Methionine, Miscellaneous (%)	2	2	0.34625	0.02652						
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	20	20	0.95491	0.04489	0.95545	0.04629	0.01294	4.85%	0.01555	4.03%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.94300							
132.05	Phenylalanine, Pre-col AQC Der (%)	4	4	0.92438	0.04593	0.92438	0.04593	0.02297	4.97%	0.04125	4.05%
132.99	Phenylalanine, Miscellaneous (%)	1	1	0.89000							
133.00	Proline, Post-col Ninhydrin Der (%)	20	19	1.0800	0.09307	1.0651	0.05105	0.01464	4.79%	0.01700	3.96%
133.05	Proline, Pre-col AQC Der (%)	4	4	1.0706	0.04828	1.0706	0.04828	0.02414	4.51%	0.03175	3.96%
133.99	Proline, Miscellaneous (%)	1	1	1.0600							
134.00	Serine, Post-col Ninhydrin Der (%)	20	20	0.98938	0.04258	0.99382	0.03498	0.00978	3.52%	0.01241	4.00%
134.02	Serine, Post-col OPA Der (%)	1	1	0.92300							
134.05	Serine, Pre-col AQC Der (%)	4	4	1.0059	0.03309	1.0059	0.03309	0.01655	3.29%	0.02675	4.00%
134.99	Serine, Miscellaneous (%)	1	1	1.0800							

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135.00	Threonine, Post-col Ninhydrin Der (%)	20	20	0.85611	0.02124	0.85530	0.01798	0.00502	2.10%	0.01220	4.09%
135.01	Threonine, Pre-col OPA Der (%)	1	1	0.63000							
135.02	Threonine, Post-col OPA Der (%)	1	1	0.87550							
135.05	Threonine, Pre-col AQC Der (%)	4	4	0.83450	0.02811	0.83450	0.02811	0.01406	3.37%	0.02350	4.11%
135.99	Threonine, Miscellaneous (%)	2	2	0.76000	0.11314						
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	5	5	0.23087	0.02516	0.23087	0.02516	0.01125	10.90%	0.00978	4.99%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.24133	0.01497	0.24133	0.01497	0.00864	6.20%	0.00267	4.95%
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.24000							
136.03	Tryptophan, Alka-Hydrol + IS RP LC Fl (%)	4	4	0.21463	0.03676	0.21463	0.03676	0.01838	17.13%	0.00175	5.04%
136.99	Tryptophan, Miscellaneous (%)	3	3	0.24500	0.02291	0.24500	0.02291	0.01620	9.35%	0.00333	4.94%
137.00	Tyrosine, Post-col Ninhydrin Der (%)	14	14	0.60568	0.08614	0.61948	0.06318	0.02111	10.20%	0.02287	4.30%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.71600							
137.05	Tyrosine, Pre-col AQC Der (%)	4	4	0.64838	0.08491	0.64838	0.08491	0.04246	13.10%	0.02975	4.27%
137.99	Tyrosine, Miscellaneous (%)	1	1	0.71000							
138.00	Valine, Post-col Ninhydrin Der (%)	20	20	0.98411	0.06264	0.97674	0.04727	0.01321	4.84%	0.02332	4.01%
138.02	Valine, Post-col OPA Der (%)	1	1	1.0330							
138.05	Valine, Pre-col AQC Der (%)	4	4	0.93438	0.05758	0.93438	0.05758	0.02879	6.16%	0.03425	4.04%
138.99	Valine, Miscellaneous (%)	1	1	0.99500							
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.03050	0.00071						
139.02	Taurine, Post-col OPA Der (%)	1	1	0.03350							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.02000							
150.00	Phytase, Colorimetric (Units / kg)	3	3	1,829.8	274.07	1,829.8	274.07	158.23	14.98%	128.33	
150.99	Phytase, Miscellaneous (Units / kg)	2	2	1,492.5	293.45						
160.99	Fructose, Miscellaneous (%)	5	5	0.58960	0.28422	0.58960	0.28422	0.14211	48.21%	0.13520	4.33%
161.99	Galactose, Miscellaneous (%)	1	1	0.16500							
162.99	Glucose, Miscellaneous (%)	5	5	0.85830	0.48288	0.85830	0.48288	0.24144	56.26%	0.21940	4.09%
163.99	Lactose, Miscellaneous (%)	10	10	16.742	1.3445	16.711	1.4572	0.57603	8.72%	0.23240	2.45%
164.99	Maltose, Miscellaneous (%)	4	3	2.3033	1.6061	2.3033	1.6061	0.92728	69.73%	0.26000	3.53%
165.99	Sucrose, Miscellaneous (%)	4	4	4.1025	0.39972	4.1025	0.39972	0.19986	9.74%	0.24000	3.23%
166.99	Raffinose, Miscellaneous (%)	2	2	0.21000	0.04950						
167.99	Stachyose, Miscellaneous (%)	2	2	1.0100	0.30406						
350.01	Carbadox, LC (UV or FL) (mg/kg (ppm))	2	2	1.1750	0.53033						
350.02	Carbadox, LC-MS (mg/kg (ppm))	1	1	0.22500							
350.03	Carbadox, LC-MS/MS (mg/kg (ppm))	1	1	1,010.2							
351.05	Chlortetracycline, LC-MS/MS (mg/kg (ppm))	1	1	839.30							
357.99	Ethoxyquin, Miscellaneous (mg/kg (ppm))	1	1	50.500							
373.00	Oxytetracycline, Plate (mg/kg (ppm))	4	4	369.15	57.664	369.15	57.664	28.832	15.62%	31.018	6.57%
373.03	Oxytetracycline, LC (mg/kg (ppm))	6	6	365.02	48.945	365.02	55.504	28.324	15.21%	18.613	6.58%

Test Material Code # 201725 **Issue Date : 06/30/2017**

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
373.04	Oxytetracycline, LC, AOAC (mg/kg (ppm))	4	4	298.88	27.418	298.88	27.418	13.709	9.17%	8.2500	6.78%
373.05	Oxytetracycline, LC-MS (mg/kg (ppm))	2	2	321.35	40.517						
373.06	Oxytetracycline, LC-MS/MS (mg/kg (ppm))	2	2	337.03	100.44						
377.02	Pyrantel Tartrate, LC-MS (mg/kg (ppm))	1	1	2.2500							
386.01	Tiamulin, LC-MS (mg/kg (ppm))	1	1	0.55000							
386.02	Tiamulin, LC-MS/MS (mg/kg (ppm))	1	1	0.32000							
393.02	Ractopamine Hydrochloride, LC-MS/MS (mg/kg (p	2	2	203.25	96.520						
393.99	Ractopamine Hydrochloride, Miscellaneous (mg/k	1	1	0.15665							
400.01	Water activity, Aqualab chilled mirror (Units)	7	7	0.60236	0.00787	0.60236	0.00892	0.00422	1.48%	0.00153	
400.99	Water activity, Miscellaneous (Units)	2	2	0.56950	0.00141						
412.01	#N/A	1	1	18.765							
516.00	Arsenic, total, AA, Hydride (mg / kg (ppm))	2	2	0.21725	0.10996						
516.52	Arsenic, total, ICP-MS, Open vessel (mg / kg (ppm	3	3	0.31598	0.05076	0.31598	0.05076	0.02931	16.06%	0.01883	19.03%
516.53	Arsenic, total, ICP-MS, Microwave (mg / kg (ppm)	4	4	0.37841	0.05921	0.37841	0.05921	0.03418	15.65%	0.02753	18.52%
518.41	Cadmium, ICP, Dry ash (mg / kg (ppm))	1	1	0.11000							
518.43	Cadmium, ICP, Microwave (mg / kg (ppm))	1	1	0.17500							
518.52	Cadmium, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.17498	0.07286	0.17498	0.07286	0.04207	41.64%	0.00570	20.80%
518.53	Cadmium, ICP-MS, Microwave (mg / kg (ppm))	5	5	0.15934	0.00683	0.15934	0.00683	0.00305	4.29%	0.00612	21.09%
520.41	Chromium, ICP, Dry ash (mg / kg (ppm))	1	1	4.6000							
520.42	Chromium, ICP, Open vessel (mg / kg (ppm))	1	1	9.7956							
520.43	Chromium, ICP, Microwave (mg / kg (ppm))	2	2	7.3850	3.2315						
520.52	Chromium, ICP-MS, Open vessel (mg / kg (ppm))	1	1	2.0900							
520.53	Chromium, ICP-MS, Microwave (mg / kg (ppm))	3	3	3.3804	0.53559	3.3804	0.53559	0.30922	15.84%	0.63793	13.32%
526.41	Lead, ICP, Dry ash (mg / kg (ppm))	1	1	0.40000							
526.52	Lead, ICP-MS, Open vessel (mg / kg (ppm))	3	3	0.58833	0.19811	0.58833	0.19811	0.11438	33.67%	0.03933	17.33%
526.53	Lead, ICP-MS, Microwave (mg / kg (ppm))	4	4	0.65706	0.01898	0.65706	0.01898	0.00949	2.89%	0.01598	17.04%
539.41	Nickel, ICP, Dry ash (mg / kg (ppm))	1	1	2.6500							
539.42	Nickel, ICP, Open vessel (mg / kg (ppm))	1	1	3.3900							
539.52	Nickel, ICP-MS, Open vessel (mg / kg (ppm))	1	1	2.5650							
539.53	Nickel, ICP-MS, Microwave (mg / kg (ppm))	1	1	2.5933							

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
Swine Feed, Medicated
Test Material Code # 201725

Method Precision Report

 # Methods Reported: 88
 # Labs Reporting: 195
Issue Date : 06/30/2017

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 (%)	39	33	9.0901	0.72466	0.45590	0.10108	0.46697	5.03%	1.115%	5.15%	4.6198
001.99	Loss on Drying, Miscellaneous (%)	20	19	8.9065	0.82612	0.63632	0.10709	0.64527	7.05%	1.186%	7.15%	6.0253
002.01	Protein, Auto Kjel-Foss (%)	14	11	20.739	0.32998	0.33564	0.08052	0.34516	1.62%	0.388%	1.66%	4.2864
002.05	Protein, Copper, Boric Acid (%)	37	35	21.058	0.26612	0.21588	0.10404	0.23964	1.03%	0.494%	1.14%	2.3033
002.06	Protein, Combustion Nitrogen Analyzer (%)	120	114	21.289	0.43160	0.29736	0.18326	0.34930	1.40%	0.862%	1.64%	1.9060
003.00	Fat, Eth Ext., Direct (%)	13	13	6.8532	0.24940	0.24599	0.05809	0.25276	3.59%	0.848%	3.69%	4.3513
003.06	Fat, Pet Ether (%)	20	20	6.6494	0.23264	0.22491	0.08410	0.24012	3.38%	1.265%	3.61%	2.8552
003.09	Fat, Soxtec, Eth Ext (%)	18	17	6.5894	0.30955	0.30459	0.07801	0.31442	4.62%	1.184%	4.77%	4.0303
003.10	Fat, Soxtec, Pet Ether (%)	30	28	6.4588	0.29190	0.28216	0.10573	0.30132	4.37%	1.637%	4.67%	2.8498
003.12	Fat, Hexane Ext (%)	8	8	6.5761	0.20260	0.20020	0.04405	0.20498	3.04%	0.670%	3.12%	4.6539
003.14	Fat, Ankom (%)	43	39	6.6653	0.33870	0.26168	0.11372	0.28532	3.92%	1.705%	4.28%	2.5089
004.00	Fiber, Crude, Asbestos Free (%)	18	16	1.8819	0.15273	0.10650	0.07295	0.12909	5.59%	3.826%	6.77%	1.7696
004.06	Fiber, Fibertec (%)	26	22	1.9774	0.30921	0.17374	0.06358	0.18501	9.17%	3.356%	9.76%	2.9096
004.07	Fiber, ANKOM (%)	64	57	1.7680	0.39485	0.25696	0.09722	0.27474	14.58%	5.517%	15.59%	2.8260
005.00	Ash, 2h @ 600°C (%)	92	85	7.9628	0.12724	0.10286	0.05482	0.11655	1.29%	0.689%	1.47%	2.1263
005.05	Ash, 3h @ 550°C (%)	35	31	8.1043	0.10042	0.09311	0.01840	0.09491	1.15%	0.227%	1.17%	5.1578
005.99	Ash, Miscellaneous (%)	10	8	8.1083	0.14416	0.14878	0.05166	0.15750	1.84%	0.638%	1.94%	3.0487
008.02	Fiber, Acid Detergent (%)	15	14	2.8754	0.82742	0.47539	0.17170	0.50544	17.61%	6.359%	18.72%	2.9438
008.08	Fiber, Acid Detergent, ANKOM (%)	43	38	2.6897	0.53007	0.40063	0.15351	0.42904	15.22%	5.833%	16.30%	2.7949
009.07	Fiber, Neutral Det-ENZ Pretreat (%)	12	12	6.8787	1.3197	1.2797	0.45627	1.3586	18.60%	6.633%	19.75%	2.9776
009.09	Fiber, Neutral Detergent, ANKOM (%)	42	38	6.0655	1.4412	0.92921	0.17698	0.94591	16.01%	3.050%	16.30%	5.3448
010.99	Moisture, Miscellaneous (%)	16	13	9.3147	0.88027	0.71148	0.07884	0.71583	7.74%	0.858%	7.79%	9.0798
011.01	Loss on Drying, 135°C 2hr (%)	68	63	11.271	0.85229	0.62632	0.15313	0.64477	5.54%	1.354%	5.70%	4.2106
012.00	Starch, Polarimetric (Ewers) (%)	10	10	20.620	2.2523	2.2495	0.15801	2.2551	10.91%	0.766%	10.94%	14.272
012.01	Starch, Megazyme (%)	9	8	18.280	1.7003	0.85002	0.24215	0.88383	4.53%	1.289%	4.71%	3.6500
013.00	Fat, Acid hydrolysis (%)	18	17	8.0022	0.61857	0.61593	0.08081	0.62121	7.70%	1.010%	7.76%	7.6872
013.02	Fat, Mojonnier, Bak Ext (%)	17	16	8.5654	0.63548	0.63792	0.16636	0.65926	7.43%	1.937%	7.68%	3.9629
019.00	Calcium, Ox-Mn04 Vol. (%)	19	17	1.0502	0.04217	0.03935	0.02585	0.04708	3.74%	2.460%	4.48%	1.8212
019.31	Calcium, AAS, Dry ash (%)	24	21	1.0535	0.06721	0.05078	0.02460	0.05643	4.78%	2.315%	5.31%	2.2941
019.41	Calcium, ICP, Dry ash (%)	26	22	1.1000	0.09731	0.05876	0.01610	0.06092	5.43%	1.487%	5.63%	3.7834
019.42	Calcium, ICP, Open vessel (%)	22	19	1.1239	0.09103	0.07415	0.02305	0.07765	6.54%	2.034%	6.85%	3.3687
019.43	Calcium, ICP, Microwave (%)	26	25	1.0877	0.05405	0.05043	0.02751	0.05745	4.64%	2.530%	5.28%	2.0880

Test Material Code # 201725 **Issue Date : 06/30/2017**

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
022.31	Copper, AAS, Dry ash (mg / kg (ppm))	17	15	86.839	8.3606	4.7593	1.3974	4.9603	5.37%	1.578%	5.60%	3.5496
022.41	Copper, ICP, Dry ash (mg / kg (ppm))	20	16	88.298	5.9250	4.7468	2.0976	5.1896	5.41%	2.391%	5.91%	2.4741
022.42	Copper, ICP, Open vessel (mg / kg (ppm))	23	19	93.301	10.220	4.9236	3.1578	5.8492	5.18%	3.325%	6.16%	1.8523
022.43	Copper, ICP, Microwave (mg / kg (ppm))	23	22	91.499	5.6954	5.3675	2.6936	6.0055	5.87%	2.944%	6.56%	2.2296
025.31	Iron, AAS, Dry ash (mg / kg (ppm))	15	12	596.79	55.651	26.251	11.413	28.625	4.39%	1.907%	4.78%	2.5082
025.41	Iron, ICP, Dry ash (mg / kg (ppm))	23	22	600.37	62.662	60.812	21.376	64.459	10.13%	3.561%	10.74%	3.0155
025.42	Iron, ICP, Open vessel (mg / kg (ppm))	19	16	537.07	151.25	104.53	15.987	105.75	18.22%	2.786%	18.43%	6.6148
025.43	Iron, ICP, Microwave (mg / kg (ppm))	21	18	574.98	54.246	34.609	12.761	36.886	5.92%	2.183%	6.31%	2.8906
027.31	Magnesium, AAS, Dry ash (%)	16	14	0.22782	0.01067	0.00968	0.00636	0.01158	4.25%	2.791%	5.08%	1.8209
027.41	Magnesium, ICP, Dry ash (%)	22	20	0.24766	0.03855	0.01082	0.00593	0.01233	4.51%	2.473%	5.15%	2.0811
027.42	Magnesium, ICP, Open vessel (%)	22	19	0.24196	0.02628	0.01263	0.00502	0.01359	5.20%	2.067%	5.60%	2.7075
027.43	Magnesium, ICP, Microwave (%)	23	21	0.23671	0.01642	0.01240	0.00660	0.01405	5.29%	2.815%	5.99%	2.1281
028.31	Manganese, AAS, Dry ash (mg / kg (ppm))	14	13	172.14	7.8381	7.2405	4.2451	8.3932	4.21%	2.466%	4.88%	1.9772
028.41	Manganese, ICP, Dry ash (mg / kg (ppm))	21	17	173.14	12.491	7.6312	3.2054	8.2771	4.35%	1.826%	4.71%	2.5822
028.42	Manganese, ICP, Open vessel (mg / kg (ppm))	22	19	184.95	20.074	14.827	6.9983	16.395	7.94%	3.749%	8.78%	2.3428
028.43	Manganese, ICP, Microwave (mg / kg (ppm))	23	21	178.91	9.6431	8.8025	6.0001	10.653	4.91%	3.348%	5.94%	1.7755
031.01	Phosphorus, Photometric (%)	43	40	0.71052	0.04019	0.02569	0.01811	0.03143	3.59%	2.529%	4.39%	1.7358
031.41	Phosphorus, ICP, Dry ash (%)	25	24	0.73456	0.05229	0.04405	0.01119	0.04545	5.95%	1.512%	6.14%	4.0608
031.42	Phosphorus, ICP, Open vessel (%)	22	20	0.71409	0.04745	0.04303	0.01597	0.04590	5.99%	2.224%	6.39%	2.8734
031.43	Phosphorus, ICP, Microwave (%)	25	23	0.71745	0.04146	0.03870	0.01147	0.04037	5.40%	1.601%	5.64%	3.5196
032.31	Potassium, AAS, Dry ash (%)	17	16	1.3726	0.20898	0.05249	0.04505	0.06917	3.96%	3.403%	5.22%	1.5355
032.41	Potassium, ICP, Dry ash (%)	23	20	1.3795	0.07934	0.06564	0.02504	0.07025	4.79%	1.827%	5.13%	2.8061
032.42	Potassium, ICP, Open vessel (%)	22	20	1.3836	0.12430	0.08075	0.02166	0.08361	5.74%	1.539%	5.94%	3.8602
032.43	Potassium, ICP, Microwave (%)	27	24	1.3561	0.07229	0.05162	0.02720	0.05835	3.83%	2.016%	4.32%	2.1448
033.00	Salt as chloride, Sol Cl (%)	25	22	1.5569	0.05861	0.04961	0.01307	0.05130	3.17%	0.835%	3.28%	3.9247
033.01	Salt as chloride, Poten Cl (%)	29	26	1.6084	0.06023	0.02673	0.01132	0.02903	1.65%	0.698%	1.79%	2.5639
035.31	Sodium, AAS, Dry ash (%)	19	16	0.49863	0.07449	0.04783	0.00956	0.04878	9.85%	1.970%	10.05%	5.1007
035.41	Sodium, ICP, Dry ash (%)	24	21	0.50024	0.08671	0.02939	0.00846	0.03059	5.86%	1.688%	6.10%	3.6143
035.42	Sodium, ICP, Open vessel (%)	17	15	0.50550	0.02798	0.01929	0.01403	0.02385	3.85%	2.802%	4.76%	1.7000
035.43	Sodium, ICP, Microwave (%)	21	19	0.48139	0.02878	0.01493	0.01642	0.02220	3.08%	3.384%	4.57%	1.3517
036.42	Sulfur, ICP, Open vessel (%)	18	14	0.30213	0.01880	0.01326	0.00671	0.01486	4.45%	2.253%	4.99%	2.2153
036.43	Sulfur, ICP, Microwave (%)	11	10	0.29323	0.01746	0.01349	0.01568	0.02069	4.60%	5.348%	7.05%	1.3192
037.31	Zinc, AAS, Dry ash (mg / kg (ppm))	18	16	3,176.6	894.80	488.09	38.554	489.61	14.55%	1.150%	14.60%	12.699
037.41	Zinc, ICP, Dry ash (mg / kg (ppm))	21	20	3,399.8	606.55	322.90	63.589	329.10	9.19%	1.810%	9.37%	5.1755
037.42	Zinc, ICP, Open vessel (mg / kg (ppm))	21	18	3,339.3	788.16	245.35	81.419	258.51	6.99%	2.319%	7.36%	3.1750
037.43	Zinc, ICP, Microwave (mg / kg (ppm))	25	22	3,461.9	263.91	251.29	61.586	258.73	7.32%	1.794%	7.54%	4.2011
106.02	Vitamin A, LC (KU / kg)	21	18	35.780	15.083	11.496	2.1408	11.693	34.14%	6.357%	34.72%	5.4620
109.02	Vitamin E, LC (IU/kg)	21	17	182.24	49.412	26.176	5.6036	26.769	13.66%	2.925%	13.97%	4.7771
120.00	Alanine, Post-col Ninhydrin Der (%)	20	19	1.0400	0.03432	0.02094	0.01789	0.02754	2.02%	1.729%	2.66%	1.5397
121.00	Arginine, Post-col Ninhydrin Der (%)	20	19	1.2752	0.05825	0.03863	0.01994	0.04347	3.05%	1.576%	3.43%	2.1796

Test Material Code # 201725 **Issue Date : 06/30/2017**

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
122.00	Aspartic, Post-col Ninhydrin Der (%)	20	19	2.0197	0.05884	0.04569	0.02260	0.05097	2.25%	1.115%	2.51%	2.2550
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	20	19	0.30746	0.01910	0.01476	0.00578	0.01585	4.76%	1.864%	5.11%	2.7423
125.00	Glutamic, Post-col Ninhydrin Der (%)	20	19	3.3929	0.15212	0.10925	0.03999	0.11634	3.24%	1.187%	3.45%	2.9089
126.00	Glycine, Post-col Ninhydrin Der (%)	20	18	0.99554	0.03604	0.02646	0.01106	0.02868	2.67%	1.117%	2.90%	2.5936
127.00	Histidine, Post-col Ninhydrin Der (%)	19	16	0.50187	0.03609	0.02855	0.00556	0.02908	5.75%	1.119%	5.86%	5.2349
128.00	Isoleucine, Post-col Ninhydrin Der (%)	20	18	0.86867	0.05619	0.04082	0.01098	0.04227	4.75%	1.277%	4.92%	3.8507
129.00	Leucine, Post-col Ninhydrin Der (%)	20	18	1.5491	0.06895	0.04069	0.01375	0.04296	2.63%	0.888%	2.77%	3.1233
130.00	L-Lysine, Post-col Ninhydrin Der (%)	22	20	1.4391	0.08992	0.05389	0.02092	0.05781	3.74%	1.452%	4.01%	2.7631
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	20	19	0.39021	0.01645	0.01564	0.00622	0.01683	4.02%	1.598%	4.32%	2.7056
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	20	20	0.95491	0.04489	0.04368	0.01463	0.04606	4.57%	1.532%	4.82%	3.1489
133.00	Proline, Post-col Ninhydrin Der (%)	20	18	1.0800	0.09307	0.04109	0.01365	0.04330	3.87%	1.286%	4.08%	3.1725
134.00	Serine, Post-col Ninhydrin Der (%)	20	17	0.98938	0.04258	0.02639	0.00764	0.02747	2.65%	0.766%	2.75%	3.5973
135.00	Threonine, Post-col Ninhydrin Der (%)	20	19	0.85611	0.02124	0.02015	0.01066	0.02280	2.36%	1.246%	2.67%	2.1393
137.00	Tyrosine, Post-col Ninhydrin Der (%)	14	13	0.60568	0.08614	0.05826	0.02541	0.06356	9.36%	4.081%	10.21%	2.5017
138.00	Valine, Post-col Ninhydrin Der (%)	20	18	0.98411	0.06264	0.03740	0.01753	0.04131	3.84%	1.798%	4.24%	2.3562
163.99	Lactose, Miscellaneous (%)	10	9	16.742	1.3445	1.4178	0.14531	1.4253	8.49%	0.870%	8.53%	9.8084

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