

AAFCO
Proficiency Testing Program



Animal Feed Scheme

Rabbit Feed, Residue

Test Material Code # 202127

Method Summary Report

(Precision Report Follows)

Labs Reporting: 164

Methods Reported: 357

Issue Date : 08/31/2021

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	0.3000							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	43	42	8.298	0.3855	8.332	0.3262	0.0629	3.92%	0.1067	2.91%
001.99	Loss on Drying, Miscellaneous (%)	17	16	8.526	0.6635	8.419	0.4623	0.1445	5.49%	0.1147	2.90%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	5	8.205	0.2425	8.205	0.2425	0.1085	2.96%	0.1158	2.91%
001.03	Loss on Drying, Low temp. methods (%)	2	2	8.465	0.1697						
001.05	Loss on Drying, LECO (%)	1	1	8.569							
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	112	108	17.39	0.6380	17.32	0.3284	0.0395	1.90%	0.1945	2.40%
002.05	Protein, Crude, Copper, Boric Acid (%)	22	22	17.04	0.5691	17.00	0.3271	0.0872	1.92%	0.1057	2.43%
002.01	Protein, Crude, Auto Kjeh-Foss (%)	13	13	17.17	0.3516	17.12	0.2436	0.0844	1.42%	0.1322	2.42%
002.11	Protein, Crude, NIR (%)	6	6	21.86	9.798	18.26	1.300	0.6632	7.12%	0.0717	2.34%
002.00	Protein, Crude, Crude (%)	3	3	17.14	0.6012	17.14	0.6012	0.3471	3.51%	0.3367	2.42%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	2	2	17.13	0.1959						
002.08	Protein, Crude, Cu/Ti (%)	2	2	17.29	0.1939						
002.04	Protein, Crude, Copper Catalyst (%)	1	1	16.65							
002.99	Protein, Crude, Miscellaneous (%)	1	1	17.50							
003.14	Fat, Crude, Ankom (%)	52	51	3.908	0.4383	3.865	0.2470	0.0432	6.39%	0.1452	3.26%
003.10	Fat, Crude, Randall, Pet Ether (%)	25	25	3.639	0.1580	3.642	0.1744	0.0436	4.79%	0.0758	3.29%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	13	13	3.937	0.3756	3.954	0.3866	0.1340	9.78%	0.1270	3.25%
003.06	Fat, Crude, Pet Ether (%)	11	11	3.892	0.1709	3.896	0.1854	0.0699	4.76%	0.0769	3.26%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	8	3.999	0.1865	3.963	0.1158	0.0512	2.92%	0.1081	3.25%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	8	7	4.103	0.2149	4.102	0.2419	0.1143	5.90%	0.0817	3.23%
003.11	Fat, Crude, NIR (%)	6	6	4.008	0.5019	4.008	0.5692	0.2905	14.20%	0.0650	3.25%
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	2	2	3.820	0.4164						
003.12	Fat, Crude, Hexane Ext (%)	2	2	3.918	0.0813						
003.99	Fat, Crude, Miscellaneous (%)	3	2	3.743	0.1662	3.743	0.1662			0.0950	3.28%
004.07	Fiber, Crude, ANKOM (%)	71	71	20.54	1.153	20.50	0.8828	0.1310	4.31%	0.4524	2.21%
004.06	Fiber, Crude, Fibertec (%)	15	15	20.09	0.8090	20.04	0.8185	0.2642	4.08%	0.2903	2.23%
004.00	Fiber, Crude, Asbestos Free (%)	12	12	20.51	1.179	20.34	0.8699	0.3139	4.28%	0.3390	2.22%
004.11	Fiber, Crude, NIR (%)	5	5	17.79	3.201	17.79	3.201	1.432	18.00%	0.1940	2.37%

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004.03	Fiber, Crude, Fritted Glass (%)	3	3	19.52	1.101	19.52	1.101	0.6359	5.64%	0.3467	2.26%
004.99	Fiber, Crude, Miscellaneous (%)	1	1	22.94							
005.00	Ash, 2h @ 600°C (%)	76	73	11.11	0.3662	11.16	0.1599	0.0234	1.43%	0.0785	2.78%
005.05	Ash, 3h @ 550°C (%)	17	17	11.33	0.4106	11.29	0.1451	0.0440	1.29%	0.0605	2.78%
005.99	Ash, Miscellaneous (%)	7	7	11.18	0.4937	11.34	0.1151	0.0544	1.02%	0.0957	2.78%
005.11	Ash, NIR (%)	3	3	15.00	10.26	15.00	10.26	5.924	68.39%	0.3833	2.58%
005.02	Ash, LECO (%)	1	1	10.67							
006.99	Total Sugars, Miscellaneous (%)	3	3	3.718	1.515	3.718	1.515	0.8748	40.75%	0.1500	3.28%
006.00	Total Sugars, As sucrose (%)	2	2	3.923	0.4137						
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	37	35	26.93	1.823	27.03	1.833	0.3874	6.78%	0.4094	1.92%
008.02	Fiber, Acid Detergent, Crucible (%)	12	12	27.50	1.379	27.70	1.107	0.3995	4.00%	0.4319	1.90%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	5	5	27.08	2.938	27.08	2.938	1.314	10.85%	0.2000	1.92%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	28.85							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	36	34	36.21	1.601	36.11	1.473	0.3157	4.08%	0.3430	1.66%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	11	37.67	1.700	37.55	1.131	0.4262	3.01%	0.5008	1.63%
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	4	3	36.97	1.341	36.97	1.341	0.7742	3.63%	0.1400	1.64%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	37.38							
010.99	Moisture, Miscellaneous (%)	18	17	8.367	0.5758	8.422	0.3569	0.1082	4.24%	0.1019	2.90%
010.11	Moisture, NIR (%)	4	4	9.574	1.811	9.574	1.811	0.9056	18.92%	0.0925	2.85%
010.03	Moisture, Karl-Fischer (%)	1	1	7.820							
011.01	Loss on Drying, HT, 135°C 2hr (%)	60	59	9.375	0.5715	9.391	0.4615	0.0751	4.91%	0.1094	2.86%
011.99	Loss on Drying, HT, High Temp. Methods Miscellaneous (%)	4	4	9.653	0.2266	9.653	0.2266	0.1133	2.35%	0.1625	2.84%
011.02	Loss on Drying, HT, 130°C for 2 hours (%)	2	2	9.340	0.4384						
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	8	8	9.166	1.532	9.045	1.446	0.6393	15.99%	0.2936	2.87%
012.00	Starch, Polarimetric (Ewers) (%)	7	6	9.685	0.4388	9.712	0.4335	0.2212	4.46%	0.0333	2.84%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	4	8.158	0.5176	8.158	0.5176	0.2588	6.34%	0.2800	2.92%
012.11	Starch, NIR (%)	3	3	6.973	5.587	6.973	5.587	3.951	80.12%	0.7467	2.99%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	2	2	5.475	2.596						
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	8.870							
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	17	4.652	0.6671	4.650	0.7507	0.2276	16.14%	0.1458	3.17%
013.02	Fat, Acid Pretreat, Mojonniier, Bak Ext (%)	17	17	5.035	0.5020	5.031	0.5378	0.1631	10.69%	0.0977	3.14%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	7	7	5.000	0.8616	5.000	0.9770	0.4616	19.54%	0.1979	3.14%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	6	6	4.072	0.4221	4.072	0.4786	0.2442	11.75%	0.1286	3.24%
015.43	Aluminum, ICP, Microwave (ppm)	7	7	629.5	184.9	656.0	143.2	67.64	21.82%	8.621	6.03%
015.41	Aluminum, ICP, Dry ash (ppm)	5	5	590.3	84.90	590.3	84.90	37.97	14.38%	10.13	6.12%
015.53	Aluminum, ICP-MS, Microwave (ppm)	3	3	786.4	33.11	786.4	33.11	19.12	4.21%	11.52	5.86%
015.42	Aluminum, ICP, Open vessel (ppm)	1	1	197.4							
017.43	Boron, ICP, Microwave (ppm)	6	6	19.53	7.428	21.12	4.361	2.226	20.64%	0.8336	10.11%
017.41	Boron, ICP, Dry ash (ppm)	4	4	19.93	0.8858	19.93	0.8858	0.4429	4.44%	0.5725	10.20%
017.42	Boron, ICP, Open vessel (ppm)	5	4	21.16	0.7499	21.16	0.7499	0.4329	3.54%	0.6250	10.10%

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017.44	Boron, ICP, Dry ash (ppm)	1	1	13.15							
017.53	Boron, ICP-MS, Microwave (ppm)	1	1	23.49							
019.43	Calcium, ICP, Microwave (%)	30	29	1.130	0.0615	1.128	0.0602	0.0140	5.34%	0.0275	3.93%
019.41	Calcium, ICP, Dry ash (%)	24	24	1.118	0.0552	1.113	0.0441	0.0112	3.96%	0.0264	3.94%
019.42	Calcium, ICP, Open vessel (%)	18	18	1.140	0.0872	1.142	0.0738	0.0218	6.46%	0.0273	3.92%
019.31	Calcium, AAS, Dry ash (%)	15	15	1.164	0.0889	1.158	0.0861	0.0278	7.43%	0.0468	3.91%
019.08	Calcium, EDTA (%)	10	9	1.117	0.0708	1.109	0.0608	0.0253	5.48%	0.0059	3.94%
019.00	Calcium, Ox-Mn04 Vol. (%)	4	4	1.086	0.1035	1.086	0.1035	0.0518	9.53%	0.0440	3.95%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	1.191	0.1603	1.191	0.1603	0.0801	13.46%	0.0359	3.90%
019.99	Calcium, Miscellaneous (%)	3	3	1.125	0.1333	1.125	0.1333	0.0943	11.85%	0.0033	3.93%
019.52	Calcium, ICP-MS, Open vessel (%)	2	2	1.110	0.0211						
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	1.248							
019.09	Calcium, Ion-selective electrode (%)	1	1	1.036							
019.32	Calcium, AAS, Open vessel (%)	1	1	1.055							
019.33	Calcium, AAS, Microwave (%)	1	1	1.160							
019.44	Calcium, ICP, Dry ash (%)	1	1	1.200							
021.43	Cobalt, ICP, Microwave (ppm)	8	7	9.478	1.768	9.514	1.921	0.9078	20.20%	0.7022	11.40%
021.41	Cobalt, ICP, Dry ash (ppm)	6	6	7.000	1.901	7.000	2.156	1.100	30.80%	0.2081	11.94%
021.53	Cobalt, ICP-MS, Microwave (ppm)	5	5	9.998	1.251	9.998	1.251	0.5595	12.51%	0.3648	11.31%
021.42	Cobalt, ICP, Open vessel (ppm)	2	2	6.688	0.3299						
021.52	Cobalt, ICP-MS, Open vessel (ppm)	2	2	3.533	0.6470						
021.99	Cobalt, Miscellaneous (ppm)	1	1	5.750							
022.43	Copper, ICP, Microwave (ppm)	25	23	50.27	3.441	50.25	3.853	1.004	7.67%	1.487	8.87%
022.41	Copper, ICP, Dry ash (ppm)	19	19	32.36	7.695	32.52	6.657	1.909	20.47%	1.617	9.47%
022.42	Copper, ICP, Open vessel (ppm)	18	17	50.49	3.392	50.25	2.931	0.8885	5.83%	2.022	8.87%
022.31	Copper, AAS, Dry ash (ppm)	9	9	37.36	6.437	37.36	3.111	1.296	8.33%	1.583	9.28%
022.53	Copper, ICP-MS, Microwave (ppm)	5	4	49.29	5.669	49.29	5.669	2.835	11.50%	1.412	8.90%
022.44	Copper, ICP, Dry ash (ppm)	2	2	42.10	12.58						
022.99	Copper, Miscellaneous (ppm)	2	2	46.25	2.475						
022.32	Copper, AAS, Open vessel (ppm)	1	1	20.07							
022.33	Copper, AAS, Microwave (ppm)	1	1	49.50							
022.52	Copper, ICP-MS, Open vessel (ppm)	1	1	40.64							
024.99	Iodine, Miscellaneous (ppm)	1	1	4.385							
025.43	Iron, ICP, Microwave (ppm)	21	21	718.5	186.3	742.1	143.9	39.25	19.39%	27.70	5.92%
025.42	Iron, ICP, Open vessel (ppm)	15	14	575.6	183.6	578.5	202.0	67.49	34.92%	17.60	6.14%
025.41	Iron, ICP, Dry ash (ppm)	13	13	705.2	75.80	705.8	84.62	29.34	11.99%	23.53	5.96%
025.31	Iron, AAS, Dry ash (ppm)	7	7	723.4	97.23	728.4	98.50	46.54	13.52%	7.654	5.93%
025.53	Iron, ICP-MS, Microwave (ppm)	3	3	800.3	53.16	800.3	53.16	30.69	6.64%	38.53	5.85%
025.99	Iron, Miscellaneous (ppm)	3	3	582.0	178.0	582.0	178.0	102.8	30.59%	19.33	6.14%
027.43	Magnesium, ICP, Microwave (%)	28	27	0.3021	0.0187	0.3026	0.0142	0.0034	4.70%	0.0088	4.79%

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027.41	Magnesium, ICP, Dry ash (%)	20	20	0.3006	0.0215	0.3007	0.0194	0.0054	6.45%	0.0066	4.79%
027.42	Magnesium, ICP, Open vessel (%)	18	18	0.3018	0.0156	0.3012	0.0158	0.0046	5.23%	0.0047	4.79%
027.31	Magnesium, AAS, Dry ash (%)	9	9	0.2798	0.0561	0.2935	0.0230	0.0096	7.84%	0.0021	4.81%
027.53	Magnesium, ICP-MS, Microwave (%)	4	4	0.3256	0.0320	0.3256	0.0320	0.0160	9.81%	0.0103	4.74%
027.99	Magnesium, Miscellaneous (%)	3	3	0.3483	0.0813	0.3483	0.0813	0.0575	23.34%	0.0033	4.69%
027.52	Magnesium, ICP-MS, Open vessel (%)	2	2	0.2978	0.0031						
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.2550							
027.33	Magnesium, AAS, Microwave (%)	1	1	0.2800							
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.3150							
028.43	Manganese, ICP, Microwave (ppm)	27	25	235.8	16.49	235.5	16.15	4.037	6.86%	5.981	7.03%
028.41	Manganese, ICP, Dry ash (ppm)	18	18	211.5	15.37	211.7	13.03	3.838	6.15%	5.344	7.15%
028.42	Manganese, ICP, Open vessel (ppm)	18	18	237.3	13.70	237.2	15.17	4.469	6.39%	8.581	7.02%
028.31	Manganese, AAS, Dry ash (ppm)	11	11	211.4	25.16	216.0	15.09	5.689	6.99%	6.605	7.12%
028.53	Manganese, ICP-MS, Microwave (ppm)	5	5	248.6	27.49	248.6	27.49	12.29	11.06%	3.544	6.97%
028.44	Manganese, ICP, Dry ash (ppm)	2	2	218.0	21.23						
028.99	Manganese, Miscellaneous (ppm)	2	2	227.0	24.04						
028.32	Manganese, AAS, Open vessel (ppm)	1	1	219.6							
028.52	Manganese, ICP-MS, Open vessel (ppm)	1	1	184.6							
031.43	Phosphorus, ICP, Microwave (%)	30	28	0.7063	0.0431	0.7096	0.0383	0.0090	5.39%	0.0152	4.21%
031.01	Phosphorus, Photometric (%)	27	27	0.7043	0.0288	0.7055	0.0256	0.0061	3.62%	0.0109	4.22%
031.41	Phosphorus, ICP, Dry ash (%)	22	22	0.7028	0.0333	0.7021	0.0364	0.0097	5.18%	0.0160	4.22%
031.42	Phosphorus, ICP, Open vessel (%)	20	20	0.6859	0.0361	0.6873	0.0280	0.0078	4.08%	0.0229	4.23%
031.53	Phosphorus, ICP-MS, Microwave (%)	4	4	0.7623	0.0728	0.7623	0.0728	0.0364	9.55%	0.0491	4.17%
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.7035	0.0032	0.7035	0.0032	0.0022	0.45%	0.0038	4.22%
031.99	Phosphorus, Miscellaneous (%)	3	3	0.6617	0.0275	0.6617	0.0275	0.0195	4.16%	0.0033	4.26%
031.44	Phosphorus, ICP, Dry ash (%)	2	2	0.7058	0.0202						
031.06	Phosphorus, Hach Method (%)	1	1	0.6700							
031.52	Phosphorus, ICP-MS, Open vessel (%)	1	1	0.6447							
032.43	Potassium, ICP, Microwave (%)	28	27	1.381	0.0633	1.384	0.0439	0.0106	3.17%	0.0305	3.81%
032.41	Potassium, ICP, Dry ash (%)	20	20	1.285	0.1212	1.282	0.1250	0.0349	9.75%	0.0399	3.85%
032.42	Potassium, ICP, Open vessel (%)	18	18	1.376	0.0662	1.378	0.0711	0.0210	5.16%	0.0481	3.81%
032.31	Potassium, AAS, Dry ash (%)	6	5	1.218	0.1023	1.218	0.1023	0.0366	8.40%	0.0181	3.88%
032.53	Potassium, ICP-MS, Microwave (%)	4	4	1.478	0.1551	1.478	0.1551	0.0776	10.50%	0.0434	3.77%
032.99	Potassium, Miscellaneous (%)	4	4	1.333	0.0529	1.333	0.0529	0.0264	3.97%	0.0313	3.83%
032.52	Potassium, ICP-MS, Open vessel (%)	2	2	1.340	0.0348						
032.08	Potassium, Ion-selective electrode (%)	1	1	0.9000							
032.32	Potassium, AAS, Open vessel (%)	1	1	1.055							
032.44	Potassium, ICP, Dry ash (%)	1	1	1.420							
033.01	Salt as chloride, Poten Cl (%)	25	24	1.095	0.0414	1.089	0.0246	0.0063	2.26%	0.0065	3.95%
033.00	Salt as chloride, Sol Cl (%)	18	17	1.055	0.0660	1.053	0.0587	0.0178	5.57%	0.0196	3.97%

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033.99	Salt, Miscellaneous (%)	7	7	0.9570	0.1386	0.9570	0.1572	0.0743	16.43%	0.0243	4.03%
033.03	Salt as chloride, Quantab (%)	6	6	0.9658	0.0554	0.9623	0.0544	0.0278	5.66%	0.1317	4.02%
033.05	Salt as chloride, Ion Sel Electrode (%)	4	3	0.9500	0.0794	0.9500	0.0794			0.0000	4.03%
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	8	8	0.8453	0.1408	0.8199	0.0920	0.0407	11.23%	0.0504	16.48%
034.04	Selenium, Total (Se), AA, Hydride (ppm)	4	4	0.6705	0.0807	0.6705	0.0807	0.0403	12.03%	0.0461	16.99%
034.52	Selenium, Total (Se), ICP-MS, Open vessel (ppm)	3	3	0.7318	0.1507	0.7318	0.1507	0.0870	20.59%	0.0737	16.77%
034.41	Selenium, Total (Se), ICP, Dry ash (ppm)	2	2	0.6228	0.1503						
034.43	Selenium, Total (Se), ICP, Microwave (ppm)	3	2	1.387	0.0187	1.387	0.0187			0.1675	15.23%
034.01	Selenium, Total (Se), Fluor (ppm)	1	1	0.8275							
034.99	Selenium, Total (Se), Miscellaneous (ppm)	2	1	1.395							
034.42	Selenium, Total (Se), ICP, Open vessel (ppm)	1		1.000							
035.43	Sodium, ICP, Microwave (%)	27	25	0.3629	0.0281	0.3615	0.0278	0.0070	7.69%	0.0127	4.66%
035.41	Sodium, ICP, Dry ash (%)	20	20	0.3411	0.0238	0.3413	0.0266	0.0074	7.81%	0.0090	4.70%
035.42	Sodium, ICP, Open vessel (%)	17	17	0.3541	0.0170	0.3550	0.0170	0.0052	4.80%	0.0110	4.67%
035.31	Sodium, AAS, Dry ash (%)	9	9	0.3493	0.0279	0.3472	0.0258	0.0107	7.43%	0.0116	4.69%
035.53	Sodium, ICP-MS, Microwave (%)	4	4	0.3747	0.0385	0.3747	0.0385	0.0193	10.28%	0.0151	4.64%
035.99	Sodium, Miscellaneous (%)	3	3	0.3633	0.0551	0.3633	0.0551			0.0000	4.66%
035.01	Sodium, Ion-selective electrode (%)	2	2	0.5625	0.2793						
035.05	Sodium, Flame Emission (%)	1	1	0.3600							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.2750							
035.52	Sodium, ICP-MS, Open vessel (%)	1	1	0.3375							
036.42	Sulfur, ICP, Open vessel (%)	17	16	0.2887	0.0295	0.2892	0.0180	0.0056	6.21%	0.0067	4.82%
036.43	Sulfur, ICP, Microwave (%)	15	15	0.3227	0.0429	0.3183	0.0265	0.0086	8.34%	0.0081	4.75%
036.04	Sulfur, LECO (%)	3	3	0.2307	0.1306	0.2307	0.1306	0.0754	56.58%	0.0007	4.99%
036.53	Sulfur, ICP-MS, Microwave (%)	1	1	0.2810							
036.99	Sulfur, Miscellaneous (%)	1	1	0.2550							
037.43	Zinc, ICP, Microwave (ppm)	28	26	196.7	38.03	202.3	14.23	3.488	7.03%	6.528	7.19%
037.41	Zinc, ICP, Dry ash (ppm)	19	18	158.4	23.91	158.3	27.11	7.988	17.12%	4.735	7.46%
037.42	Zinc, ICP, Open vessel (ppm)	18	18	200.1	18.28	199.7	19.59	5.771	9.81%	5.902	7.21%
037.31	Zinc, AAS, Dry ash (ppm)	9	9	150.2	41.83	150.2	47.43	19.76	31.58%	3.731	7.52%
037.53	Zinc, ICP-MS, Microwave (ppm)	4	4	220.0	22.72	220.0	22.72	11.36	10.33%	8.540	7.10%
037.44	Zinc, ICP, Dry ash (ppm)	3	3	187.9	22.71	187.9	22.71	13.11	12.09%	5.650	7.27%
037.99	Zinc, Miscellaneous (ppm)	2	2	198.8	16.62						
037.32	Zinc, AAS, Open vessel (ppm)	1	1	198.6							
037.33	Zinc, AAS, Microwave (ppm)	1	1	200.0							
037.52	Zinc, ICP-MS, Open vessel (ppm)	1	1	133.4							
038.43	Molybdenum, ICP, Microwave (ppm)	8	8	4.031	3.602	3.107	1.434	0.6337	46.15%	0.0854	13.49%
038.42	Molybdenum, ICP, Open vessel (ppm)	4	4	3.290	0.3889	3.290	0.3889	0.1944	11.82%	0.2045	13.37%
038.41	Molybdenum, ICP, Dry ash (ppm)	3	3	2.543	0.4469	2.543	0.4469	0.2580	17.57%	0.0604	13.90%
038.53	Molybdenum, ICP-MS, Microwave (ppm)	3	3	3.601	0.2264	3.601	0.2264	0.1307	6.29%	0.1190	13.19%

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040.53	Barium, ICP-MS, Microwave (ppm)	1	1	23.49							
041.53	Vanadium, ICP-MS, Microwave (ppm)	2	2	2.129	0.2954						
042.00	Chloride, Titrimetric (%)	3	3	0.6633	0.0104	0.6633	0.0104	0.0060	1.57%	0.0067	4.25%
042.01	Chloride, Ion-selective electrode (%)	1	1	0.5550							
042.99	Chloride, Miscellaneous (%)	1	1	2.965							
099.01	Menadione (form), LC (ppm)	1	1	0.6000							
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	1,800							
102.02	Niacin, LC (ppm)	2	2	109.5	16.02						
102.01	Niacin, Microbiological (ppm)	1	1	189.0							
103.01	Pantothenic Acid, Microbiological (ppm)	1	1	73.05							
103.02	Pantothenic Acid, LC (ppm)	1	1	80.80							
104.00	Riboflavin, Fluorometric (ppm)	1	1	17.40							
104.03	Riboflavin, LC (ppm)	1	1	11.18							
105.00	Thiamine, LC (ppm)	3	3	14.25	5.534	14.25	5.534	3.195	38.84%	0.6867	10.72%
105.01	Thiamine, Fluorometer (ppm)	1	1	28.05							
106.02	Vitamin A, LC (KU / kg)	10	10	9.176	2.086	9.296	2.083	0.8234	22.41%	1.446	
106.00	Vitamin A, Color (KU / kg)	1	1	8.755							
106.01	Vitamin A, UV (KU / kg)	1	1	16.90							
107.00	Vitamin B12, Microbiological (ppb)	1	1	18.35							
107.99	Vitamin B12, Miscellaneous (ppb)	1	1	170.0							
108.02	Vitamin D3, LC (KU / kg)	4	3	2.178	0.3835	2.178	0.3835	0.2214	17.60%	0.0433	
108.99	Vitamin D3, Miscellaneous (KU / kg)	1	1	2.175							
109.02	Vitamin E, LC (IU / kg)	9	8	98.87	23.60	95.55	18.29	8.083	19.14%	5.523	
109.99	Vitamin E, Miscellaneous (IU / kg)	1	1	106.0							
111.00	Vitamin C, Phosphorylated, LC (ppm)	1	1	4.400							
112.01	Pyridoxine, LC (µg / g)	3	3	17.93	1.137	17.93	1.137	0.6566	6.34%	0.2667	10.36%
113.01	Folic Acid, Micro (ppm)	1	1	4.715							
113.02	Folic acid, LC (ppm)	1	1	4.800							
114.01	Biotin, Microbiological (ppm)	1	1	0.6520							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.6150							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	3.535							
120.00	Alanine, Post-col Ninhydrin Der (%)	15	14	0.7792	0.0415	0.7837	0.0346	0.0115	4.41%	0.0103	4.15%
120.05	Alanine, Pre-col AQC Der (%)	7	7	0.7768	0.0365	0.7753	0.0380	0.0179	4.90%	0.0079	4.16%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.7950							
120.99	Alanine, Miscellaneous (%)	1	1	0.8100							
121.00	Arginine, Post-col Ninhydrin Der (%)	15	14	0.9714	0.0476	0.9732	0.0499	0.0167	5.12%	0.0134	4.02%
121.05	Arginine, Pre-col AQC Der (%)	7	6	0.9832	0.0698	0.9832	0.0792	0.0404	8.05%	0.0120	4.01%
121.02	Arginine, Post-col OPA Der (%)	1	1	0.9480							
121.99	Arginine, Miscellaneous (%)	1	1	0.9550							
122.00	Aspartic, Post-col Ninhydrin Der (%)	15	14	1.718	0.0704	1.729	0.0512	0.0171	2.96%	0.0216	3.68%

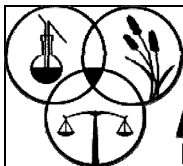
Method Code	Analyte and Method	Total # Labs Submitting	# Labs in Robust Calcs	Raw Mean	Raw SD	Assigned Value Robust Mean	AAFCO ffp Robust SD	Uncertainty (U) Robust	% RSD - Robust	Average Range (R-bar)	Thompson Horwitz %RSD
122.05	Aspartic, Pre-col AQC Der (%)	7	7	1.787	0.1719	1.787	0.1949	0.0921	10.91%	0.0304	3.67%
122.02	Aspartic, Post-col OPA Der (%)	1	1	1.760							
122.99	Aspartic, Miscellaneous (%)	1	1	1.745							
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	15	14	0.2372	0.0299	0.2383	0.0264	0.0088	11.07%	0.0054	4.96%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	5	4	0.2138	0.0668	0.2138	0.0668	0.0385	31.23%	0.0020	5.05%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.2575							
124.99	Cysteine/Cystine, Miscellaneous (%)	1	1	0.2000							
125.00	Glutamic, Post-col Ninhydrin Der (%)	15	14	2.356	0.0970	2.356	0.1100	0.0368	4.67%	0.0253	3.52%
125.05	Glutamic, Pre-col AQC Der (%)	6	6	2.379	0.1796	2.379	0.2036	0.1039	8.56%	0.0673	3.51%
125.99	Glutamic, Miscellaneous (%)	2	2	2.317	0.0400						
125.02	Glutamic, Post-col OPA Der (%)	1	1	2.331							
126.00	Glycine, Post-col Ninhydrin Der (%)	15	14	0.7640	0.0345	0.7672	0.0264	0.0088	3.44%	0.0057	4.16%
126.05	Glycine, Pre-col AQC Der (%)	7	7	0.7661	0.0501	0.7661	0.0568	0.0268	7.41%	0.0290	4.16%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.8025							
126.99	Glycine, Miscellaneous (%)	1	1	0.7950							
127.00	Histidine, Post-col Ninhydrin Der (%)	15	15	0.3717	0.0210	0.3717	0.0218	0.0070	5.86%	0.0055	4.64%
127.05	Histidine, Pre-col AQC Der (%)	7	7	0.3656	0.0215	0.3656	0.0243	0.0115	6.66%	0.0227	4.65%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.3640							
127.99	Histidine, Miscellaneous (%)	1	1	0.3850							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	15	14	0.6362	0.0518	0.6391	0.0432	0.0144	6.75%	0.0074	4.28%
128.05	Isoleucine, Pre-col AQC Der (%)	7	7	0.6451	0.0666	0.6531	0.0519	0.0245	7.95%	0.0104	4.26%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.6555							
128.99	Isoleucine, Miscellaneous (%)	1	1	0.6550							
129.00	Leucine, Post-col Ninhydrin Der (%)	15	14	1.109	0.0563	1.109	0.0635	0.0212	5.73%	0.0123	3.94%
129.05	Leucine, Pre-col AQC Der (%)	7	6	1.074	0.0441	1.074	0.0500	0.0255	4.65%	0.0087	3.96%
129.02	Leucine, Post-col OPA Der (%)	1	1	1.151							
129.99	Leucine, Miscellaneous (%)	1	1	1.145							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	16	15	0.8970	0.0372	0.8967	0.0350	0.0113	3.91%	0.0101	4.07%
130.05	L-Lysine, Pre-col AQC Der (%)	7	7	0.8824	0.0563	0.8929	0.0368	0.0174	4.12%	0.0143	4.07%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.9550							
130.99	L-Lysine, Miscellaneous (%)	1	1	0.9750							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	16	14	0.3262	0.0180	0.3263	0.0202	0.0067	6.19%	0.0077	4.73%
131.05	Methionine, PAO Pre-col AQC Der (%)	6	6	0.2843	0.0512	0.2843	0.0580	0.0296	20.41%	0.0149	4.83%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.3160							
131.99	Methionine, Miscellaneous (%)	1	1	0.3750							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	15	15	0.7391	0.0522	0.7354	0.0455	0.0147	6.18%	0.0179	4.19%
132.05	Phenylalanine, Pre-col AQC Der (%)	7	7	0.7241	0.0583	0.7221	0.0428	0.0202	5.93%	0.0190	4.20%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.7350							
132.99	Phenylalanine, Miscellaneous (%)	1	1	0.7550							
133.00	Proline, Post-col Ninhydrin Der (%)	15	14	0.8976	0.0510	0.8959	0.0457	0.0153	5.10%	0.0095	4.07%

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133.05	Proline, Pre-col AQC Der (%)	6	6	0.8983	0.0543	0.8983	0.0616	0.0314	6.86%	0.0175	4.06%
133.99	Proline, Miscellaneous (%)	1	1	0.9150							
134.00	Serine, Post-col Ninhydrin Der (%)	15	14	0.7442	0.0498	0.7468	0.0502	0.0168	6.73%	0.0080	4.18%
134.05	Serine, Pre-col AQC Der (%)	7	6	0.7398	0.1077	0.7598	0.0719	0.0367	9.46%	0.0067	4.17%
134.02	Serine, Post-col OPA Der (%)	1	1	0.7090							
134.99	Serine, Miscellaneous (%)	1	1	0.7450							
135.00	Threonine, Post-col Ninhydrin Der (%)	15	14	0.6787	0.0283	0.6812	0.0249	0.0083	3.66%	0.0084	4.24%
135.05	Threonine, Pre-col AQC Der (%)	7	7	0.6691	0.0755	0.6837	0.0477	0.0225	6.98%	0.0070	4.24%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.6785							
135.99	Threonine, Miscellaneous (%)	1	1	0.7000							
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	5	0.2228	0.0142	0.2228	0.0142	0.0064	6.38%	0.0076	5.01%
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	4	3	0.2283	0.0376	0.2283	0.0376			0.0000	5.00%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	1	1	0.2200							
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.1945							
136.05	Tryptophan, Pre-col AQC Der (%)	1	1	0.2055							
136.99	Tryptophan, Miscellaneous (%)	1	1	0.2100							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	12	12	0.4674	0.0831	0.4674	0.0942	0.0340	20.15%	0.0113	4.48%
137.05	Tyrosine, Pre-col AQC Der (%)	7	6	0.4426	0.0466	0.4364	0.0378	0.0193	8.66%	0.0032	4.53%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.4970							
137.99	Tyrosine, Miscellaneous (%)	1	1	0.4500							
138.00	Valine, Post-col Ninhydrin Der (%)	15	14	0.8013	0.0515	0.8014	0.0492	0.0164	6.14%	0.0129	4.14%
138.05	Valine, Pre-col AQC Der (%)	7	7	0.7917	0.0676	0.7894	0.0714	0.0337	9.05%	0.0077	4.14%
138.02	Valine, Post-col OPA Der (%)	1	1	0.8195							
138.99	Valine, Miscellaneous (%)	1	1	0.8700							
139.00	Taurine, Post-col Ninhydrin Der (%)	2	2	0.1140	0.0721						
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0070							
139.02	Taurine, Post-col OPA Der (%)	1	1	0.0100							
139.99	Taurine, Miscellaneous (%)	1	1	0.0100							
160.10	Fructose, HPAEC PAD (%)	1	1	0.0400							
160.99	Fructose, Miscellaneous (%)	1	1	0.8400							
161.10	Galactose, HPAEC PAD (%)	1	1	0.0000							
162.10	Glucose, HPAEC PAD (%)	1	1	0.0240							
162.99	Glucose, Miscellaneous (%)	1	1	0.2900							
163.10	Lactose, HPAEC PAD (%)	1	1	0.0000							
163.99	Lactose, Miscellaneous (%)	1	1	0.1500							
164.10	Maltose, HPAEC PAD (%)	1	1	0.1015							
164.99	Maltose, Miscellaneous (%)	1	1	0.2350							
165.10	Sucrose, HPAEC PAD (%)	1	1	1.571							
165.99	Sucrose, Miscellaneous (%)	1	1	2.235							
166.10	Raffinose, HPAEC PAD (%)	1	1	2.369							

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166.99	Raffinose, Miscellaneous (%)	1	1	0.4000							
167.10	Stachyose, HPAEC PAD (%)	1	1	477.5							
167.99	Stachyose, Miscellaneous (%)	1	1	0.6650							
351.05	Chlortetracycline, LC-MS/MS (ppm)	2	2	1.930	0.2546						
351.00	Chlortetracycline, Plate (ppm)	1	1	6.054							
386.99	Tiamulin, Miscellaneous (ppm)	1	1	2.250							
388.05	Tylosin, LC-MS/MS (ppm)	1	1	1.800							
400.01	Water Activity, Aqualab chilled mirror (Units)	12	12	0.5161	0.0446	0.5263	0.0155	0.0056	2.95%	0.0035	
400.99	Water Activity, Miscellaneous (Units)	2	2	0.5160	0.0127						
516.53	Arsenic, Total (As), ICP-MS, Microwave (ppm)	4	4	0.2530	0.0347	0.2530	0.0347	0.0173	13.70%	0.0171	19.67%
516.00	Arsenic, Total (As), AA, Hydride (ppm)	2	2	0.1980	0.0283						
516.43	Arsenic, Total (As), ICP, Microwave (ppm)	1		10.00							
518.53	Cadmium, ICP-MS, Microwave (ppm)	4	4	0.1338	0.0170	0.1338	0.0170	0.0085	12.70%	0.0200	21.65%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.0822	0.0017						
518.43	Cadmium, ICP, Microwave (ppm)	2	1	0.1400							
520.43	Chromium, Total (Cr), ICP, Microwave (ppm)	4	4	19.78	9.639	19.78	9.639	4.819	48.73%	0.6653	10.21%
520.41	Chromium, Total (Cr), ICP, Dry ash (ppm)	3	3	12.05	2.722	12.05	2.722	1.572	22.59%	0.2410	11.00%
520.53	Chromium, Total (Cr), ICP-MS, Microwave (ppm)	3	3	28.05	0.7839	28.05	0.7839	0.4526	2.80%	0.5991	9.69%
520.42	Chromium, Total (Cr), ICP, Open vessel (ppm)	2	2	25.37	0.3850						
526.53	Lead, ICP-MS, Microwave (ppm)	4	4	0.2705	0.0408	0.2705	0.0408	0.0204	15.09%	0.0313	19.48%
526.41	Lead, ICP, Dry ash (ppm)	2	2	0.1476	0.0036						
526.43	Lead, ICP, Microwave (ppm)	2	2	2.184	2.611						
529.99	Mercury, Miscellaneous (ppb)	4	2	3.250	2.206	3.250	2.206			0.3577	22.00%
539.53	Nickel, ICP-MS, Microwave (ppm)	3	3	14.18	0.9027	14.18	0.9027	0.5212	6.37%	0.2359	10.73%
539.41	Nickel, ICP, Dry ash (ppm)	2	2	9.869	1.716						
539.43	Nickel, ICP, Microwave (ppm)	2	2	11.93	3.308						
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	2		0.0050							
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	1	1	0.0126							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	1	1	0.6349							
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	2	2	0.0100	0.0050						
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	1	1	0.0980							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	1	1	0.9454							
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	2	2	1.456	0.1025						
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	2	2	0.1500	0.0079						
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	1	1	0.0249							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	1	1	0.0168							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1		0.0000							
740.99	Eicosapentaenoic Acid EPA (5c,8c,11c,14c,17c-20:5), Miscellaneous (% (w/w))	2		0.0000							
742.99	Behenic Acid (22:0), Miscellaneous (% (w/w))	1	1	0.0283							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.0050							

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746.99	Docosapentaenoic Acid n-3 DPA (7c,10c,13c,16c,19c-22:5), Miscellaneous (%)	2		0.0000							
748.99	Lignoceric Acid (24:0), Miscellaneous (%) (w/w)	1	1	0.0329							
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22:6), Miscellaneous (%)	2		0.0000							
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	0.1600							
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (%) (w/w)	1	1	1.530							
758.99	Total Saturated Fatty Acids, Miscellaneous (%) (w/w)	1	1	3.600							
772.99	Total Fatty Acids, Miscellaneous (%) (w/w)	1	1	3.335							

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

Rabbit Feed, Residue

Test Material Code # 202127

Methods Reported: 120

Labs Reporting: 164

Issue Date : 08/31/2021

Method Precision Report

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
001.00	Loss on Drying, Vac 95°C 5 hr (%)	5	5	8.205	0.2425	0.2317	0.1014	0.2529	2.82%	1.24%	3.08%	2.495
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	43	39	8.298	0.3855	0.3281	0.0847	0.3388	3.94%	1.02%	4.06%	4.001
001.99	Loss on Drying, Miscellaneous (%)	17	15	8.526	0.6635	0.4324	0.1193	0.4485	5.15%	1.42%	5.34%	3.759
002.01	Protein, Crude, Auto Kjel-Foss (%)	13	11	17.17	0.3516	0.1836	0.1096	0.2138	1.08%	0.64%	1.25%	1.951
002.05	Protein, Crude, Copper, Boric Acid (%)	22	19	17.04	0.5691	0.4894	0.0750	0.4951	2.86%	0.44%	2.89%	6.604
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	112	105	17.39	0.6380	0.3672	0.1637	0.4020	2.12%	0.95%	2.32%	2.456
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	13	13	3.937	0.3756	0.3668	0.1137	0.3841	9.32%	2.89%	9.76%	3.377
003.06	Fat, Crude, Pet Ether (%)	11	11	3.892	0.1709	0.1638	0.0686	0.1776	4.21%	1.76%	4.56%	2.589
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	8	7	4.103	0.2149	0.2068	0.0826	0.2227	5.04%	2.01%	5.43%	2.694
003.10	Fat, Crude, Randall, Pet Ether (%)	25	25	3.639	0.1580	0.1494	0.0730	0.1662	4.10%	2.00%	4.57%	2.279
003.11	Fat, Crude, NIR (%)	6	6	4.008	0.5019	0.5002	0.0581	0.5036	12.48%	1.45%	12.57%	8.669
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	7	3.999	0.1865	0.0452	0.0935	0.1039	1.15%	2.37%	2.64%	1.111
003.14	Fat, Crude, Ankom (%)	52	47	3.908	0.4383	0.2587	0.1033	0.2785	6.67%	2.66%	7.18%	2.696
004.00	Fiber, Crude, Asbestos Free (%)	12	11	20.51	1.179	0.6409	0.3185	0.7157	3.17%	1.58%	3.54%	2.247
004.06	Fiber, Crude, Fibertec (%)	15	14	20.09	0.8090	0.8193	0.2363	0.8527	4.08%	1.18%	4.24%	3.609
004.07	Fiber, Crude, ANKOM (%)	71	66	20.54	1.153	0.8311	0.4068	0.9253	4.06%	1.99%	4.52%	2.275
004.11	Fiber, Crude, NIR (%)	5	5	17.79	3.201	3.198	0.1921	3.204	17.98%	1.08%	18.01%	16.68
005.00	Ash, 2h @ 600°C (%)	76	69	11.11	0.3662	0.1612	0.0620	0.1727	1.44%	0.55%	1.55%	2.787
005.05	Ash, 3h @ 550°C (%)	17	16	11.33	0.4106	0.2086	0.0622	0.2177	1.86%	0.55%	1.94%	3.498
005.99	Ash, Miscellaneous (%)	7	6	11.18	0.4937	0.0539	0.0708	0.0889	0.47%	0.62%	0.78%	1.257
008.02	Fiber, Acid Detergent, Crucible (%)	12	12	27.50	1.379	1.355	0.3589	1.402	4.93%	1.31%	5.10%	3.907
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	37	32	26.93	1.823	1.654	0.3536	1.692	6.11%	1.31%	6.25%	4.784
008.99	Fiber, Acid Detergent, Miscellaneous (%)	5	5	27.08	2.938	2.935	0.1695	2.940	10.84%	0.63%	10.86%	17.35
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	10	37.67	1.700	1.094	0.4128	1.169	2.93%	1.11%	3.14%	2.832
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	36	32	36.21	1.601	1.324	0.2880	1.355	3.68%	0.80%	3.77%	4.705
010.99	Moisture, Miscellaneous (%)	18	16	8.367	0.5758	0.3396	0.1063	0.3559	4.00%	1.25%	4.20%	3.347
011.01	Loss on Drying, HT, 135°C 2hr (%)	60	56	9.375	0.5715	0.4198	0.0843	0.4282	4.47%	0.90%	4.56%	5.081
012.00	Starch, Polarimetric (Ewers) (%)	7	6	9.685	0.4388	0.4382	0.0337	0.4395	4.52%	0.35%	4.54%	13.05
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	8	7	9.166	1.532	1.633	0.1626	1.642	17.67%	1.76%	17.76%	10.10
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	17	4.652	0.6671	0.6603	0.1343	0.6738	14.19%	2.89%	14.48%	5.018
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	17	17	5.035	0.5020	0.4973	0.0972	0.5067	9.88%	1.93%	10.06%	5.216
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	6	5	4.072	0.4221	0.3785	0.0621	0.3835	9.53%	1.56%	9.66%	6.175
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	7	7	5.000	0.8616	0.8516	0.1847	0.8714	17.03%	3.69%	17.43%	4.719
015.41	Aluminum, ICP, Dry ash (ppm)	5	5	590.3	84.90	84.69	8.295	85.10	14.35%	1.41%	14.42%	10.26
015.43	Aluminum, ICP, Microwave (ppm)	7	6	629.5	184.9	91.29	7.945	91.63	13.19%	1.15%	13.24%	11.53
017.43	Boron, ICP, Microwave (ppm)	6	5	19.53	7.428	2.286	0.9209	2.464	10.19%	4.11%	10.99%	2.676

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
019.08	Calcium, EDTA (%)	10	7	1.117	0.0708	0.0461	0.0020	0.0462	4.19%	0.19%	4.19%	22.54
019.31	Calcium, AAS, Dry ash (%)	15	14	1.164	0.0889	0.0614	0.0461	0.0768	5.34%	4.01%	6.68%	1.664
019.41	Calcium, ICP, Dry ash (%)	24	22	1.118	0.0552	0.0423	0.0216	0.0475	3.81%	1.94%	4.27%	2.201
019.42	Calcium, ICP, Open vessel (%)	18	17	1.140	0.0872	0.0674	0.0243	0.0716	5.84%	2.11%	6.21%	2.945
019.43	Calcium, ICP, Microwave (%)	30	28	1.130	0.0615	0.0555	0.0240	0.0605	4.93%	2.13%	5.37%	2.520
021.41	Cobalt, ICP, Dry ash (ppm)	6	6	7.000	1.901	1.896	0.1902	1.906	27.09%	2.72%	27.23%	10.02
021.43	Cobalt, ICP, Microwave (ppm)	8	6	9.478	1.768	1.794	0.4031	1.839	19.41%	4.36%	19.89%	4.562
021.53	Cobalt, ICP-MS, Microwave (ppm)	5	5	9.998	1.251	1.233	0.2981	1.269	12.33%	2.98%	12.69%	4.255
022.31	Copper, AAS, Dry ash (ppm)	9	9	37.36	6.437	6.335	1.614	6.537	16.96%	4.32%	17.50%	4.052
022.41	Copper, ICP, Dry ash (ppm)	19	19	32.36	7.695	7.591	1.783	7.798	23.46%	5.51%	24.10%	4.373
022.42	Copper, ICP, Open vessel (ppm)	18	15	50.49	3.392	2.026	1.568	2.562	4.09%	3.16%	5.17%	1.634
022.43	Copper, ICP, Microwave (ppm)	25	22	50.27	3.441	3.303	1.278	3.541	6.59%	2.55%	7.07%	2.771
025.31	Iron, AAS, Dry ash (ppm)	7	7	723.4	97.23	97.07	7.879	97.39	13.42%	1.09%	13.46%	12.36
025.41	Iron, ICP, Dry ash (ppm)	13	13	705.2	75.80	74.16	22.18	77.41	10.52%	3.15%	10.98%	3.490
025.42	Iron, ICP, Open vessel (ppm)	15	14	575.6	183.6	183.2	17.06	184.0	31.84%	2.96%	31.97%	10.79
025.43	Iron, ICP, Microwave (ppm)	21	19	718.5	186.3	113.0	25.21	115.7	14.80%	3.30%	15.17%	4.592
027.31	Magnesium, AAS, Dry ash (%)	9	8	0.2798	0.0561	0.0166	0.0022	0.0168	5.58%	0.74%	5.63%	7.582
027.41	Magnesium, ICP, Dry ash (%)	20	20	0.3006	0.0215	0.0209	0.0067	0.0220	6.96%	2.23%	7.31%	3.276
027.42	Magnesium, ICP, Open vessel (%)	18	18	0.3018	0.0156	0.0153	0.0044	0.0159	5.05%	1.47%	5.26%	3.575
027.43	Magnesium, ICP, Microwave (%)	28	25	0.3021	0.0187	0.0099	0.0091	0.0134	3.29%	2.99%	4.44%	1.485
028.31	Manganese, AAS, Dry ash (ppm)	11	9	211.4	25.16	11.73	5.160	12.81	5.37%	2.36%	5.87%	2.483
028.41	Manganese, ICP, Dry ash (ppm)	18	17	211.5	15.37	12.05	4.892	13.01	5.64%	2.29%	6.08%	2.659
028.42	Manganese, ICP, Open vessel (ppm)	18	18	237.3	13.70	12.57	7.733	14.75	5.29%	3.26%	6.22%	1.908
028.43	Manganese, ICP, Microwave (ppm)	27	24	235.8	16.49	13.79	5.836	14.98	5.89%	2.49%	6.40%	2.567
028.53	Manganese, ICP-MS, Microwave (ppm)	5	5	248.6	27.49	27.41	2.855	27.56	11.03%	1.15%	11.09%	9.652
031.01	Phosphorus, Photometric (%)	27	25	0.7043	0.0288	0.0233	0.0085	0.0248	3.30%	1.21%	3.51%	2.915
031.41	Phosphorus, ICP, Dry ash (%)	22	21	0.7028	0.0333	0.0300	0.0122	0.0324	4.29%	1.74%	4.63%	2.660
031.42	Phosphorus, ICP, Open vessel (%)	20	20	0.6859	0.0361	0.0331	0.0204	0.0389	4.82%	2.98%	5.67%	1.902
031.43	Phosphorus, ICP, Microwave (%)	30	26	0.7063	0.0431	0.0355	0.0128	0.0378	5.01%	1.81%	5.33%	2.945
032.41	Potassium, ICP, Dry ash (%)	20	20	1.285	0.1212	0.1187	0.0346	0.1236	9.24%	2.70%	9.62%	3.570
032.42	Potassium, ICP, Open vessel (%)	18	18	1.376	0.0662	0.0588	0.0429	0.0728	4.27%	3.12%	5.29%	1.695
032.43	Potassium, ICP, Microwave (%)	28	26	1.381	0.0633	0.0508	0.0281	0.0580	3.70%	2.04%	4.22%	2.069
033.00	Salt as chloride, Sol Cl (%)	18	15	1.055	0.0660	0.0557	0.0085	0.0563	5.32%	0.81%	5.39%	6.659
033.01	Salt as chloride, Poten Cl (%)	25	22	1.095	0.0414	0.0244	0.0077	0.0256	2.25%	0.71%	2.36%	3.331
033.03	Salt as chloride, Quantab (%)	6	5	0.9658	0.0554		0.0743			7.85%		
033.99	Salt, Miscellaneous (%)	7	7	0.9570	0.1386	0.1378	0.0212	0.1394	14.40%	2.22%	14.57%	6.573
034.53	Selenium, Total (Se), ICP-MS, Microwave (ppm)	8	7	0.8453	0.1408	0.0524	0.0511	0.0732	6.55%	6.39%	9.15%	1.432
035.31	Sodium, AAS, Dry ash (%)	9	8	0.3493	0.0279	0.0183	0.0079	0.0200	5.35%	2.31%	5.83%	2.522
035.41	Sodium, ICP, Dry ash (%)	20	19	0.3411	0.0238	0.0223	0.0072	0.0234	6.49%	2.10%	6.82%	3.247
035.42	Sodium, ICP, Open vessel (%)	17	17	0.3541	0.0170	0.0155	0.0097	0.0183	4.38%	2.74%	5.17%	1.884
035.43	Sodium, ICP, Microwave (%)	27	25	0.3629	0.0281	0.0268	0.0116	0.0292	7.39%	3.20%	8.05%	2.519
036.42	Sulfur, ICP, Open vessel (%)	17	14	0.2887	0.0295	0.0125	0.0066	0.0141	4.33%	2.27%	4.89%	2.150
036.43	Sulfur, ICP, Microwave (%)	15	13	0.3227	0.0429	0.0246	0.0070	0.0256	7.91%	2.26%	8.23%	3.642
037.31	Zinc, AAS, Dry ash (ppm)	9	9	150.2	41.83	41.74	3.688	41.91	27.79%	2.46%	27.90%	11.36
037.41	Zinc, ICP, Dry ash (ppm)	19	18	158.4	23.91	23.70	4.513	24.12	14.96%	2.85%	15.23%	5.345
037.42	Zinc, ICP, Open vessel (ppm)	18	17	200.1	18.28	18.05	4.896	18.70	9.06%	2.46%	9.39%	3.819

Test Material Code # 202127

Issue Date : 08/31/2021

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
037.43	Zinc, ICP, Microwave (ppm)	28	24	196.7	38.03	11.20	5.192	12.34	5.54%	2.57%	6.11%	2.377
038.43	Molybdenum, ICP, Microwave (ppm)	8	7	4.031	3.602	0.9906	0.0777	0.9936	35.38%	2.77%	35.49%	12.79
106.02	Vitamin A, LC (KU / kg)	10	10	9.176	2.086	1.868	1.315	2.284	20.35%	14.33%	24.89%	1.737
109.02	Vitamin E, LC (IU / kg)	9	6	98.87	23.60	12.03	2.989	12.40	13.46%	3.34%	13.87%	4.147
120.00	Alanine, Post-col Ninhydrin Der (%)	15	12	0.7792	0.0415	0.0260	0.0066	0.0268	3.31%	0.84%	3.42%	4.091
120.05	Alanine, Pre-col AQC Der (%)	7	7	0.7768	0.0365	0.0360	0.0087	0.0370	4.63%	1.12%	4.76%	4.265
121.00	Arginine, Post-col Ninhydrin Der (%)	15	14	0.9714	0.0476	0.0468	0.0118	0.0483	4.82%	1.22%	4.97%	4.083
121.05	Arginine, Pre-col AQC Der (%)	7	5	0.9832	0.0698	0.0516	0.0032	0.0517	5.37%	0.34%	5.38%	16.03
122.00	Aspartic, Post-col Ninhydrin Der (%)	15	13	1.718	0.0704	0.0433	0.0175	0.0467	2.50%	1.01%	2.70%	2.670
122.05	Aspartic, Pre-col AQC Der (%)	7	7	1.787	0.1719	0.1704	0.0315	0.1733	9.54%	1.76%	9.70%	5.499
124.00	Cysteine/Cystine, PAO Post-col Ninhydrin Der (%)	15	13	0.2372	0.0299	0.0306	0.0042	0.0308	12.81%	1.77%	12.93%	7.308
125.00	Glutamic, Post-col Ninhydrin Der (%)	15	14	2.356	0.0970	0.0955	0.0241	0.0985	4.05%	1.02%	4.18%	4.080
125.05	Glutamic, Pre-col AQC Der (%)	6	6	2.379	0.1796	0.1712	0.0765	0.1875	7.20%	3.21%	7.88%	2.453
126.00	Glycine, Post-col Ninhydrin Der (%)	15	13	0.7640	0.0345	0.0226	0.0055	0.0232	2.92%	0.71%	3.01%	4.255
126.05	Glycine, Pre-col AQC Der (%)	7	7	0.7661	0.0501	0.0461	0.0276	0.0537	6.02%	3.60%	7.02%	1.949
127.00	Histidine, Post-col Ninhydrin Der (%)	15	14	0.3717	0.0210	0.0215	0.0043	0.0220	5.80%	1.17%	5.92%	5.074
127.05	Histidine, Pre-col AQC Der (%)	7	7	0.3656	0.0215	0.0119	0.0253	0.0279	3.25%	6.91%	7.64%	1.105
128.00	Isoleucine, Post-col Ninhydrin Der (%)	15	13	0.6362	0.0518	0.0380	0.0072	0.0387	5.88%	1.11%	5.99%	5.402
128.05	Isoleucine, Pre-col AQC Der (%)	7	7	0.6451	0.0666	0.0662	0.0103	0.0670	10.26%	1.60%	10.39%	6.481
129.00	Leucine, Post-col Ninhydrin Der (%)	15	14	1.109	0.0563	0.0557	0.0113	0.0568	5.02%	1.02%	5.12%	5.040
129.05	Leucine, Pre-col AQC Der (%)	7	6	1.074	0.0441	0.0436	0.0087	0.0445	4.06%	0.81%	4.14%	5.111
130.00	L-Lysine, Post-col Ninhydrin Der (%)	16	14	0.8970	0.0372	0.0381	0.0083	0.0390	4.25%	0.92%	4.35%	4.711
130.05	L-Lysine, Pre-col AQC Der (%)	7	6	0.8824	0.0563	0.0223	0.0105	0.0247	2.47%	1.16%	2.74%	2.348
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	16	13	0.3262	0.0180	0.0179	0.0065	0.0190	5.46%	1.97%	5.81%	2.941
131.05	Methionine, PAO Pre-col AQC Der (%)	6	5	0.2843	0.0512	0.0518	0.0079	0.0524	18.79%	2.87%	19.01%	6.618
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	15	15	0.7391	0.0522	0.0504	0.0191	0.0539	6.82%	2.58%	7.29%	2.824
132.05	Phenylalanine, Pre-col AQC Der (%)	7	6	0.7241	0.0583	0.0391	0.0103	0.0405	5.54%	1.45%	5.73%	3.941
133.00	Proline, Post-col Ninhydrin Der (%)	15	14	0.8976	0.0510	0.0507	0.0086	0.0514	5.64%	0.95%	5.72%	5.999
133.05	Proline, Pre-col AQC Der (%)	6	6	0.8983	0.0543	0.0523	0.0207	0.0563	5.82%	2.31%	6.26%	2.714
134.00	Serine, Post-col Ninhydrin Der (%)	15	14	0.7442	0.0498	0.0495	0.0073	0.0501	6.66%	0.97%	6.73%	6.904
135.00	Threonine, Post-col Ninhydrin Der (%)	15	13	0.6787	0.0283	0.0192	0.0087	0.0211	2.81%	1.27%	3.08%	2.420
135.05	Threonine, Pre-col AQC Der (%)	7	5	0.6691	0.0755	0.0339	0.0047	0.0342	4.87%	0.68%	4.91%	7.213
136.03	Tryptophan, Alka-Hydrol + IS RP LC FI (%)	5	5	0.2228	0.0142	0.0135	0.0064	0.0149	6.05%	2.88%	6.70%	2.325
137.00	Tyrosine, Post-col Ninhydrin Der (%)	12	11	0.4674	0.0831	0.0862	0.0091	0.0867	18.56%	1.95%	18.67%	9.558
137.05	Tyrosine, Pre-col AQC Der (%)	7	5	0.4426	0.0466	0.0204	0.0041	0.0208	4.80%	0.96%	4.89%	5.122
138.00	Valine, Post-col Ninhydrin Der (%)	15	13	0.8013	0.0515	0.0488	0.0095	0.0497	6.05%	1.17%	6.17%	5.261
138.05	Valine, Pre-col AQC Der (%)	7	7	0.7917	0.0676	0.0674	0.0083	0.0679	8.51%	1.05%	8.57%	8.154
400.01	Water Activity, Aqualab chilled mirror (Units)	12	10	0.5161	0.0446	0.0116	0.0026	0.0119	2.19%	0.48%	2.24%	4.642

Notes: Precision Calculations provided for methods with 5 or more labs contributing to calculations.