Proficiency Testing Program

ANAB ACCREDITED ISO/IEC 17043 PROFICIENCY TESTING PROVIDER

AAFCO PTP Animal Feed Scheme

Animal Feed Scheme

 # Labs Reporting: 175

Beet Pulp

Method Summary Report

 # Methods Reported: 345

Test Material Code # 202027

(Precision Report Follows)

Issue Date : 08/31/2020

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
000.02	Urea, As protein, Colorimetric (%)	2	1	0.3000							
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	45	**43**	7.889	0.3198	**7.926**	0.2307	0.0440	2.91%	0.1173	2.93%
001.99	Loss on Drying, Miscellaneous (%)	23	**23**	7.605	1.453	**7.874**	0.6364	0.1659	8.08%	0.1332	2.93%
001.03	Loss on Drying, Low temp. methods (%)	6	5	7.927	0.1185	7.927	0.1185	0.0662	1.50%	0.0340	2.93%
001.00	Loss on Drying, Vac 95°C 5 hr (%)	3	3	8.015	0.2472	8.015	0.2472	0.1427	3.08%	0.0747	2.92%
001.05	Loss on Drying, LECO (%)	2	2	8.335	0.2263						
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	119	**115**	8.996	0.3745	**8.965**	0.2144	0.0250	2.39%	0.0917	2.88%
002.05	Protein, Crude, Copper, Boric Acid (%)	28	**28**	8.835	0.1119	**8.827**	0.1038	0.0245	1.18%	0.0918	2.88%
002.01	Protein, Crude, Auto Kjel-Foss (%)	13	**12**	8.778	0.2019	**8.807**	0.1471	0.0531	1.67%	0.0398	2.88%
002.02	Protein, Crude, Semiauto Autoanalyzer (%)	3	3	8.648	0.1562	8.648	0.1562	0.0902	1.81%	0.1094	2.89%
002.08	Protein, Crude, Cu/Ti (%)	2	2	9.681	1.056						
002.11	Protein, Crude, NIR (%)	2	2	9.245	0.6152						
002.00	Protein, Crude, Crude (%)	1	1	8.905							
002.99	Protein, Crude, Miscellaneous (%)	1	1	8.720							
003.14	Fat, Crude, Ankom (%)	55	**52**	0.7082	0.2564	**0.6918**	0.2186	0.0379	31.60%	0.0902	4.23%
003.10	Fat, Crude, Randall, Pet Ether (%)	26	**26**	0.6555	0.2117	**0.6432**	0.2120	0.0520	32.96%	0.0339	4.27%
003.06	Fat, Crude, Pet Ether (%)	14	**14**	0.7816	0.1987	**0.7646**	0.1808	0.0604	23.65%	0.0686	4.16%
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	14	**13**	0.9294	0.3009	**0.8978**	0.2704	0.0937	30.11%	0.0382	4.07%
003.00	Fat, Crude, Diethyl Ether Ext., Direct (%)	9	**9**	0.8764	0.4213	**0.8029**	0.2092	0.0872	26.06%	0.0443	4.13%
003.13	Fat, Crude, Randall, Hexane Ext. (%)	8	**7**	0.6426	0.1585	**0.6426**	0.1798	0.0849	27.97%	0.0105	4.27%
003.99	Fat, Crude, Miscellaneous (%)	4	3	1.030	0.1179	1.030	0.1179	0.0834	11.45%	0.0733	3.98%
003.11	Fat, Crude, NIR (%)	2	2	0.8875	0.3147						
003.12	Fat, Crude, Hexane Ext (%)	2	2	0.5025	0.0035						
003.01	Fat, Crude, Diethyl Ether Ext (13th ed.), Indirect (%)	1	1	0.6650							
004.07	Fiber, Crude, ANKOM (%)	72	**70**	16.35	0.9516	**16.29**	0.8794	0.1314	5.40%	0.2940	2.48%
004.06	Fiber, Crude, Fibertec (%)	17	**17**	16.31	0.4885	**16.27**	0.4631	0.1404	2.85%	0.1455	2.48%
004.00	Fiber, Crude, Asbestos Free (%)	17	**16**	16.36	1.068	**16.30**	0.8626	0.2696	5.29%	0.2602	2.48%
004.03	Fiber, Crude, Fritted Glass (%)	5	5	15.96	0.9743	15.96	0.9743	0.4357	6.10%	0.1560	2.50%
004.01	Fiber, Crude, Sing Filt (%)	2	2	15.66	1.542						

Test Material Code # 202027 **(Precision Report Follows)** **Issue Date : 08/31/2020**

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004.11	Fiber, Crude, NIR (%)	1	1	18.40							
004.99	Fiber, Crude, Miscellaneous (%)	1	1	15.93							
005.00	Ash, 2h @ 600°C (%)	88	**87**	9.611	0.3988	**9.639**	0.3722	0.0499	3.86%	0.1193	2.84%
005.05	Ash, 3h @ 550°C (%)	35	**34**	9.948	0.3269	**9.971**	0.3090	0.0662	3.10%	0.1134	2.83%
005.99	Ash, Miscellaneous (%)	7	**7**	9.724	0.7085	**9.865**	0.4373	0.2066	4.43%	0.2841	2.83%
005.02	Ash, LECO (%)	2	2	9.735	0.1980						
005.03	Ash, Microwave furnace (%)	1	1	9.550							
006.99	Total Sugars, Miscellaneous (%)	8	**8**	10.19	1.014	**10.20**	1.144	0.5056	11.22%	0.3948	2.82%
006.00	Total Sugars, As sucrose (%)	3	3	8.677	1.061	8.677	1.061	0.6124	12.22%	0.7790	2.89%
006.03	Total Sugars, Invert w/o Invrsn (%)	2	2	10.29	0.4101						
006.01	Total Sugars, Mod. Fehling Soln (%)	1	1	11.26							
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	**42**	21.15	0.9431	**21.22**	0.8553	0.1650	4.03%	0.2800	2.17%
008.02	Fiber, Acid Detergent, Crucible (%)	10	**10**	21.91	0.8769	**21.96**	0.8708	0.3442	3.96%	0.2571	2.13%
008.99	Fiber, Acid Detergent, Miscellaneous (%)	4	4	21.11	1.309	21.11	1.309	0.6546	6.20%	0.3100	2.18%
008.05	Fiber, Acid Detergent, Acid Detergent-Hach (%)	1	1	24.75							
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	**42**	32.58	2.025	**32.49**	1.572	0.3032	4.84%	0.4053	1.75%
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	**11**	34.06	2.851	**33.59**	2.043	0.7699	6.08%	0.5824	1.73%
009.04	Fiber, Neutral Detergent, Neutral Det-No ENZ Pretreat (%)	1	1	34.41							
009.99	Fiber, Neutral Detergent, Miscellaneous (%)	1	1	36.47							
010.99	Moisture, Miscellaneous (%)	17	**17**	8.080	0.7180	**8.083**	0.7150	0.2168	8.84%	0.2288	2.92%
010.03	Moisture, Karl-Fischer (%)	2	2	8.235	0.2899						
010.11	Moisture, NIR (%)	1	1	9.010							
011.01	Loss on Drying, 135°C 2hr (%)	65	**63**	8.739	0.4673	**8.783**	0.3299	0.0520	3.76%	0.1077	2.88%
011.02	Loss on Drying, 130°C for 2 hours (%)	2	2	8.778	0.0672						
011.99	Loss on Drying, High Temp. Methods Miscellaneous (%)	1	1	8.800							
012.00	Starch, Polarimetric (Ewers) (%)	9	**9**	12.92	6.872	**12.92**	7.792	3.247	60.34%	0.4033	2.72%
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	**9**	0.8587	0.5217	**0.8587**	0.5916	0.2465	68.90%	0.1117	4.09%
012.03	Starch, Enzymatic-Colorimetric Method, Miscellaneous (%)	3	3	1.910	2.170	1.910	2.170	1.253	113.58%	0.1450	3.63%
012.04	Starch, Enzymatic-Enzyme Membrane Technology (YSI) (%)	5	3	0.2210	0.1819	0.2210	0.1819	0.1286	82.29%	0.0347	5.02%
012.20	Starch, Dietary, Enzymatic-Colorimetric (%)	1	1	0.5300							
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	19	**18**	2.193	0.4661	**2.181**	0.4975	0.1466	22.81%	0.1128	3.56%
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	**17**	2.133	0.9115	**2.081**	0.8329	0.2525	40.03%	0.2577	3.58%
013.13	Fat, Acid Pretreat, Ankom- Acid Hydrolysis (%)	5	5	4.023	1.333	4.023	1.333	0.5960	33.13%	0.8170	3.24%
013.10	Fat, Acid Pretreat, Soxtec-Acid Hydrolysis (%)	2	2	2.653	2.026						
013.08	Fat, Base Pretreat, Roese-Gottlieb Modified (%)	1	1	1.789							
015.41	Aluminum, ICP, Dry ash (ppm)	5	5	648.5	65.16	648.5	65.16	29.14	10.05%	14.82	6.04%
015.43	Aluminum, ICP, Microwave (ppm)	5	5	708.1	62.70	708.1	62.70	28.04	8.85%	15.49	5.96%
015.42	Aluminum, ICP, Open vessel (ppm)	2	2	448.3	15.06						
015.53	Aluminum, ICP-MS, Microwave (ppm)	2	2	704.5	82.79						
015.52	Aluminum, ICP-MS, Open vessel (ppm)	1	1	453.0							

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017.42	Boron, ICP, Open vessel (ppm)	7	**7**	40.56	3.290	**40.03**	2.411	1.139	6.02%	2.188	9.18%
017.43	Boron, ICP, Microwave (ppm)	6	**6**	43.63	1.394	**43.63**	1.581	0.8069	3.62%	0.9585	9.06%
017.41	Boron, ICP, Dry ash (ppm)	5	5	42.57	1.298	42.57	1.298	0.5807	3.05%	0.8262	9.10%
017.52	Boron, ICP-MS, Open vessel (ppm)	1	1	44.47							
019.43	Calcium, ICP, Microwave (%)	29	**29**	1.308	0.0978	**1.300**	0.0883	0.0205	6.79%	0.0438	3.84%
019.41	Calcium, ICP, Dry ash (%)	27	**26**	1.234	0.0801	**1.240**	0.0561	0.0138	4.52%	0.0207	3.87%
019.31	Calcium, AAS, Dry ash (%)	18	**18**	1.263	0.0511	**1.264**	0.0451	0.0133	3.56%	0.0371	3.86%
019.42	Calcium, ICP, Open vessel (%)	19	**18**	1.270	0.0901	**1.268**	0.0952	0.0281	7.51%	0.0251	3.86%
019.00	Calcium, Ox-Mn04 Vol. (%)	11	**10**	1.220	0.0703	**1.220**	0.0797	0.0315	6.54%	0.0253	3.88%
019.08	Calcium, EDTA (%)	5	5	1.258	0.0454	1.258	0.0454	0.0203	3.61%	0.0204	3.86%
019.99	Calcium, Miscellaneous (%)	5	5	1.282	0.0651	1.282	0.0651	0.0291	5.07%	0.0400	3.85%
019.53	Calcium, ICP-MS, Microwave (%)	4	4	1.261	0.0373	1.261	0.0373	0.0186	2.96%	0.0125	3.86%
019.52	Calcium, ICP-MS, Open vessel (%)	3	3	1.286	0.1532	1.286	0.1532	0.0885	11.92%	0.0734	3.85%
019.03	Calcium, Semiauto (Autoanalyzer) (%)	1	1	1.326							
019.09	Calcium, Ion-selective electrode (%)	1	1	1.245							
019.32	Calcium, AAS, Open vessel (%)	1	1	1.270							
019.44	Calcium, ICP, Dry ash (%)	1	1	1.225							
021.43	Cobalt, ICP, Microwave (ppm)	6	**6**	13.17	1.434	**13.47**	0.8696	0.4438	6.46%	0.5361	10.82%
021.31	Cobalt, AAS, Dry ash (ppm)	3	3	14.76	1.130	14.76	1.130	0.6522	7.66%	0.4024	10.67%
021.53	Cobalt, ICP-MS, Microwave (ppm)	3	3	13.88	0.2206	13.88	0.2206	0.1274	1.59%	0.3833	10.77%
021.41	Cobalt, ICP, Dry ash (ppm)	2	2	11.97	1.052						
021.52	Cobalt, ICP-MS, Open vessel (ppm)	2	2	5.088	1.425						
021.42	Cobalt, ICP, Open vessel (ppm)	1	1	10.01							
022.43	Copper, ICP, Microwave (ppm)	20	**20**	6.410	2.519	**6.132**	1.059	0.2961	17.28%	0.4580	12.18%
022.42	Copper, ICP, Open vessel (ppm)	18	**18**	6.242	0.8982	**6.211**	0.7452	0.2195	12.00%	0.3261	12.15%
022.41	Copper, ICP, Dry ash (ppm)	17	**15**	6.906	1.470	**6.711**	1.046	0.3377	15.59%	0.5703	12.01%
022.53	Copper, ICP-MS, Microwave (ppm)	4	3	5.615	0.0826	5.615	0.0826	0.0477	1.47%	0.1433	12.34%
022.99	Copper, Miscellaneous (ppm)	4	3	5.788	0.7067	5.788	0.7067	0.4997	12.21%	0.0900	12.28%
022.31	Copper, AAS, Dry ash (ppm)	3	2	7.128	1.644	7.128	1.644			0.1950	11.90%
022.52	Copper, ICP-MS, Open vessel (ppm)	2	2	5.440	0.3394						
022.33	Copper, AAS, Microwave (ppm)	1	1	7.360							
022.44	Copper, ICP, Dry ash (ppm)	1	1	7.650							
025.41	Iron, ICP, Dry ash (ppm)	20	**20**	675.8	161.4	**684.7**	160.3	44.82	23.42%	25.48	5.99%
025.43	Iron, ICP, Microwave (ppm)	19	**18**	735.4	209.4	**767.5**	126.3	37.22	16.46%	23.26	5.89%
025.42	Iron, ICP, Open vessel (ppm)	15	**14**	609.3	187.4	**609.3**	212.5	71.00	34.88%	20.98	6.09%
025.31	Iron, AAS, Dry ash (ppm)	6	**6**	770.9	136.2	**770.9**	154.4	78.81	20.03%	4.488	5.88%
025.53	Iron, ICP-MS, Microwave (ppm)	3	3	788.6	22.95	788.6	22.95	13.25	2.91%	18.54	5.86%
025.99	Iron, Miscellaneous (ppm)	3	3	857.0	17.33	857.0	17.33	10.00	2.02%	26.67	5.79%
025.52	Iron, ICP-MS, Open vessel (ppm)	1	1	592.7							
027.43	Magnesium, ICP, Microwave (%)	27	**26**	0.1532	0.0097	**0.1533**	0.0103	0.0025	6.71%	0.0056	5.30%

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027.41	Magnesium, ICP, Dry ash (%)	21	**21**	0.1490	0.0116	**0.1503**	0.0081	0.0022	5.39%	0.0052	5.32%
027.42	Magnesium, ICP, Open vessel (%)	21	**21**	0.1517	0.0066	**0.1516**	0.0066	0.0018	4.33%	0.0075	5.31%
027.31	Magnesium, AAS, Dry ash (%)	14	**13**	0.2227	0.1588	**0.1612**	0.0100	0.0035	6.22%	0.0005	5.26%
027.52	Magnesium, ICP-MS, Open vessel (%)	4	4	0.1531	0.0123	0.1531	0.0123	0.0062	8.03%	0.0077	5.30%
027.53	Magnesium, ICP-MS, Microwave (%)	4	4	0.1506	0.0020	0.1506	0.0020	0.0010	1.31%	0.0073	5.32%
027.99	Magnesium, Miscellaneous (%)	4	4	0.1550	0.0108	0.1550	0.0108	0.0054	6.97%	0.0050	5.30%
027.33	Magnesium, AAS, Microwave (%)	3	3	0.1447	0.0158	0.1447	0.0158	0.0091	10.90%	0.0013	5.35%
027.32	Magnesium, AAS, Open vessel (%)	1	1	0.1750							
027.44	Magnesium, ICP, Dry ash (%)	1	1	0.1555							
027.51	Magnesium, ICP-MS, Dry ash (%)	1	1	0.1650							
028.43	Manganese, ICP, Microwave (ppm)	20	**19**	56.50	2.975	**56.57**	3.233	0.9271	5.72%	0.9691	8.72%
028.41	Manganese, ICP, Dry ash (ppm)	18	**18**	54.37	4.202	**54.82**	2.902	0.8551	5.29%	1.118	8.76%
028.42	Manganese, ICP, Open vessel (ppm)	18	**17**	55.07	3.395	**55.03**	3.582	1.086	6.51%	1.166	8.75%
028.31	Manganese, AAS, Dry ash (ppm)	7	**7**	51.42	11.29	**53.97**	6.006	2.837	11.13%	0.5150	8.78%
028.53	Manganese, ICP-MS, Microwave (ppm)	4	4	55.00	1.159	55.00	1.159	0.5793	2.11%	1.160	8.75%
028.99	Manganese, Miscellaneous (ppm)	4	4	57.13	2.359	57.13	2.359	1.179	4.13%	2.200	8.70%
028.52	Manganese, ICP-MS, Open vessel (ppm)	2	2	53.20	4.667						
028.33	Manganese, AAS, Microwave (ppm)	1	1	50.12							
028.44	Manganese, ICP, Dry ash (ppm)	1	1	52.50							
031.43	Phosphorus, ICP, Microwave (%)	28	**26**	0.0841	0.0089	**0.0823**	0.0041	0.0010	4.99%	0.0055	5.82%
031.41	Phosphorus, ICP, Dry ash (%)	24	**23**	0.0824	0.0045	**0.0822**	0.0044	0.0011	5.32%	0.0045	5.83%
031.01	Phosphorus, Photometric (%)	24	**22**	0.0956	0.0292	**0.0931**	0.0274	0.0073	29.47%	0.0061	5.72%
031.42	Phosphorus, ICP, Open vessel (%)	20	**19**	0.0825	0.0091	**0.0809**	0.0052	0.0015	6.42%	0.0047	5.84%
031.53	Phosphorus, ICP-MS, Microwave (%)	4	4	0.0765	0.0045	0.0765	0.0045	0.0023	5.93%	0.0030	5.89%
031.03	Phosphorus, Autoanalyzer (%)	3	3	0.1248	0.1024	0.1248	0.1024	0.0591	82.08%	0.0088	5.47%
031.52	Phosphorus, ICP-MS, Open vessel (%)	3	3	0.0805	0.0042	0.0805	0.0042	0.0024	5.21%	0.0029	5.84%
031.99	Phosphorus, Miscellaneous (%)	3	3	0.0817	0.0076	0.0817	0.0076	0.0054	9.35%	0.0033	5.83%
031.02	Phosphorus, GQMP (AOAC 935.13-Extraction) (%)	2	2	0.0725	0.0106						
031.44	Phosphorus, ICP, Dry ash (%)	2	2	0.0928	0.0223						
031.06	Phosphorus, Hach Method (%)	1	1	0.0500							
032.43	Potassium, ICP, Microwave (%)	29	**28**	1.382	0.0736	**1.384**	0.0760	0.0180	5.50%	0.0212	3.81%
032.41	Potassium, ICP, Dry ash (%)	23	**23**	1.313	0.1458	**1.336**	0.0713	0.0186	5.33%	0.0317	3.83%
032.42	Potassium, ICP, Open vessel (%)	20	**20**	1.355	0.0870	**1.355**	0.0942	0.0263	6.95%	0.0423	3.82%
032.31	Potassium, AAS, Dry ash (%)	13	**13**	1.356	0.0989	**1.348**	0.0936	0.0324	6.94%	0.0264	3.82%
032.53	Potassium, ICP-MS, Microwave (%)	4	4	1.336	0.0607	1.336	0.0607	0.0304	4.55%	0.0325	3.83%
032.99	Potassium, Miscellaneous (%)	4	4	1.360	0.0258	1.360	0.0258	0.0129	1.90%	0.0200	3.82%
032.52	Potassium, ICP-MS, Open vessel (%)	3	3	1.288	0.0625	1.288	0.0625	0.0442	4.85%	0.0840	3.85%
032.32	Potassium, AAS, Open vessel (%)	2	2	1.413	0.0035						
032.44	Potassium, ICP, Dry ash (%)	1	1	1.375							
032.51	Potassium, ICP-MS, Dry ash (%)	1	1	1.690							

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033.01	Salt as chloride, Poten Cl (%)	20	**19**	0.3456	0.0479	**0.3377**	0.0215	0.0062	6.37%	0.0073	4.71%
033.00	Salt as chloride, Sol Cl (%)	13	**12**	0.3054	0.0624	**0.3160**	0.0433	0.0156	13.69%	0.0208	4.76%
033.99	Salt, Miscellaneous (%)	8	**8**	0.5198	0.4519	**0.5198**	0.5125	0.2265	98.59%	0.0109	4.41%
033.03	Salt as chloride, Quantab (%)	4	4	0.3575	0.0144	0.3575	0.0144	0.0072	4.04%	0.0100	4.67%
033.05	Salt as chloride, Ion Sel Electrode (%)	3	3	0.3500	0.0433	0.3500	0.0433	0.0306	12.37%	0.0267	4.68%
034.04	Selenium, AA, Hydride (ppm)	3	3	0.2166	0.0223	0.2166	0.0223	0.0158	10.29%	0.0684	20.14%
034.53	Selenium, ICP-MS, Microwave (ppm)	4	3	0.2470	0.0750	0.2470	0.0750	0.0433	30.38%	0.0107	19.74%
034.52	Selenium, ICP-MS, Open vessel (ppm)	2	2	0.1825	0.0177						
034.41	Selenium, ICP, Dry ash (ppm)	1	1	0.1600							
034.43	Selenium, ICP, Microwave (ppm)	2	1	0.4650							
034.42	Selenium, ICP, Open vessel (ppm)	1		0.0000							
035.43	Sodium, ICP, Microwave (%)	28	**27**	0.4838	0.0311	**0.4844**	0.0222	0.0053	4.58%	0.0134	4.46%
035.41	Sodium, ICP, Dry ash (%)	25	**25**	0.4569	0.0405	**0.4619**	0.0297	0.0074	6.43%	0.0133	4.49%
035.42	Sodium, ICP, Open vessel (%)	18	**18**	0.4676	0.0306	**0.4676**	0.0347	0.0102	7.42%	0.0143	4.48%
035.31	Sodium, AAS, Dry ash (%)	13	**12**	0.4718	0.0237	**0.4727**	0.0247	0.0089	5.24%	0.0129	4.48%
035.52	Sodium, ICP-MS, Open vessel (%)	3	3	0.4573	0.0231	0.4573	0.0231	0.0133	5.05%	0.0210	4.50%
035.53	Sodium, ICP-MS, Microwave (%)	4	3	0.4558	0.0113	0.4558	0.0113	0.0065	2.47%	0.0103	4.50%
035.99	Sodium, Miscellaneous (%)	4	3	0.4750	0.0087	0.4750	0.0087	0.0061	1.82%	0.0233	4.47%
035.01	Sodium, Ion-selective electrode (%)	1	1	0.4935							
035.05	Sodium, Flame Emission (%)	1	1	0.4800							
035.32	Sodium, AAS, Open vessel (%)	1	1	0.4650							
035.51	Sodium, ICP-MS, Dry ash (%)	1	1	0.5900							
036.42	Sulfur, ICP, Open vessel (%)	21	**21**	0.6224	0.0431	**0.6199**	0.0433	0.0118	6.98%	0.0183	4.30%
036.43	Sulfur, ICP, Microwave (%)	20	**20**	0.6771	0.0457	**0.6754**	0.0454	0.0127	6.73%	0.0228	4.24%
036.04	Sulfur, LECO (%)	6	**6**	0.5991	0.0469	**0.5991**	0.0531	0.0271	8.87%	0.0198	4.32%
036.52	Sulfur, ICP-MS, Open vessel (%)	3	3	0.6691	0.0625	0.6691	0.0625	0.0442	9.34%	0.0480	4.25%
036.53	Sulfur, ICP-MS, Microwave (%)	2	2	158.7	223.6						
036.99	Sulfur, Miscellaneous (%)	1	1	0.6600							
037.43	Zinc, ICP, Microwave (ppm)	20	**19**	23.30	6.556	**23.82**	2.305	0.6611	9.68%	1.971	9.93%
037.41	Zinc, ICP, Dry ash (ppm)	18	**18**	23.36	7.644	**22.91**	3.539	1.043	15.45%	1.231	9.99%
037.42	Zinc, ICP, Open vessel (ppm)	16	**15**	25.36	5.172	**25.02**	4.994	1.612	19.96%	1.488	9.85%
037.31	Zinc, AAS, Dry ash (ppm)	7	**7**	20.29	8.894	**23.06**	2.239	1.058	9.71%	0.1985	9.98%
037.53	Zinc, ICP-MS, Microwave (ppm)	4	4	23.30	2.601	23.30	2.601	1.300	11.16%	3.565	9.96%
037.99	Zinc, Miscellaneous (ppm)	4	3	22.00	0.0000	22.00	0.0000			1.333	10.05%
037.33	Zinc, AAS, Microwave (ppm)	1	1	28.07							
037.44	Zinc, ICP, Dry ash (ppm)	1	1	21.00							
037.52	Zinc, ICP-MS, Open vessel (ppm)	1	1	20.10							
038.43	Molybdenum, ICP, Microwave (ppm)	6	**6**	1.301	0.2695	**1.301**	0.3056	0.1560	23.50%	0.0569	15.38%
038.41	Molybdenum, ICP, Dry ash (ppm)	3	3	1.318	0.1051	1.318	0.1051	0.0607	7.97%	0.0142	15.35%
038.42	Molybdenum, ICP, Open vessel (ppm)	3	3	1.540	0.0348	1.540	0.0348	0.0201	2.26%	0.2347	14.99%

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038.53	Molybdenum, ICP-MS, Microwave (ppm)	2	2	1.383	0.0035						
038.52	Molybdenum, ICP-MS, Open vessel (ppm)	1	1	0.4050							
040.52	Barium, ICP-MS, Open vessel (ppm)	1	1	49.19							
040.53	Barium, ICP-MS, Microwave (ppm)	1	1	46.23							
041.53	Vanadium, ICP-MS, Microwave (ppm)	2	2	1.528	0.1803						
042.00	Chloride, Titrimetric (%)	2	2	0.2080	0.0113						
101.99	Choline Chloride, Miscellaneous (ppm)	1	1	941.5							
102.01	Niacin, Microbiological (ppm)	1	1	12.80							
103.01	Pantothenic Acid, Microbiological (ppm)	1		0.5500							
104.03	Riboflavin, LC (ppm)	1	1	0.2750							
104.00	Riboflavin, Fluorometric (ppm)	1		0.5000							
105.00	Thiamine, LC (ppm)	1	1	0.0650							
105.01	Thiamine, Fluorometer (ppm)	1	1	0.1140							
106.00	Vitamin A, Color (KU / kg)	1	1	0.9475							
106.02	Vitamin A, LC (KU / kg)	1		0.0000							
107.00	Vitamin B12, Microbiological (ppb)	1	1	5.425							
108.02	Vitamin D3, LC (KU / kg)	1		0.0400							
109.02	Vitamin E, LC (IU / kg)	3	3	12.27	2.806	12.27	2.806	1.620	22.87%	1.497	
111.00	Vitamin C, Phosphorylated, LC (ppm)	1		4.400							
112.01	Pyridoxine, LC (µg / g)	1	1	3.770							
113.01	Folic Acid, Micro (ppm)	1	1	0.1800							
114.01	Biotin, Microbiological (ppm)	1	1	0.0586							
115.00	Non Protein N (NPN), Urea + Am, Urease method (%)	1	1	0.3850							
118.99	Peroxide value, Miscellaneous (meq/kg)	1	1	3.305							
120.00	Alanine, Post-col Ninhydrin Der (%)	17	**17**	0.3875	0.0198	**0.3901**	0.0162	0.0049	4.16%	0.0059	4.61%
120.05	Alanine, Pre-col AQC Der (%)	5	4	0.3485	0.0468	0.3485	0.0468			0.0000	4.69%
120.02	Alanine, Post-col OPA Der (%)	1	1	0.3895							
120.99	Alanine, Miscellaneous (%)	1	1	0.3900							
121.00	Arginine, Post-col Ninhydrin Der (%)	17	**16**	0.3219	0.0239	**0.3221**	0.0246	0.0077	7.65%	0.0070	4.74%
121.05	Arginine, Pre-col AQC Der (%)	5	4	0.3090	0.0203	0.3090	0.0203			0.0000	4.77%
121.02	Arginine, Post-col OPA Der (%)	1	1	0.3080							
121.99	Arginine, Miscellaneous (%)	1	1	0.3250							
122.00	Aspartic, Post-col Ninhydrin Der (%)	17	**17**	0.6571	0.0286	**0.6567**	0.0298	0.0090	4.53%	0.0109	4.26%
122.05	Aspartic, Pre-col AQC Der (%)	4	3	0.6835	0.0258	0.6835	0.0258	0.0182	3.77%	0.0017	4.24%
122.02	Aspartic, Post-col OPA Der (%)	1	1	0.6535							
122.99	Aspartic, Miscellaneous (%)	1	1	0.6750							
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	18	**18**	0.1085	0.0305	**0.1083**	0.0276	0.0081	25.49%	0.0038	5.59%
124.05	Cysteine/Cystine, PAO Pre-col AQC Der (%)	5	4	0.0928	0.0582	0.0928	0.0582	0.0336	62.75%	0.0025	5.72%
124.02	Cysteine/Cystine, PAO Post-col OPA Der (%)	1	1	0.1350							
124.99	Cysteine/Cystine, Miscellaneous (%)	1	1	0.1000							

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125.00	Glutamic, Post-col Ninhydrin Der (%)	17	**17**	1.091	0.0496	**1.091**	0.0546	0.0166	5.00%	0.0132	3.95%
125.05	Glutamic, Pre-col AQC Der (%)	5	4	1.029	0.0368	1.029	0.0368	0.0213	3.58%	0.0025	3.98%
125.02	Glutamic, Post-col OPA Der (%)	1	1	1.088							
125.99	Glutamic, Miscellaneous (%)	1	1	1.095							
126.00	Glycine, Post-col Ninhydrin Der (%)	17	**17**	0.3717	0.0182	**0.3721**	0.0195	0.0059	5.24%	0.0090	4.64%
126.05	Glycine, Pre-col AQC Der (%)	5	4	0.3608	0.0313	0.3608	0.0313			0.0000	4.66%
126.02	Glycine, Post-col OPA Der (%)	1	1	0.3835							
126.99	Glycine, Miscellaneous (%)	1	1	0.3800							
127.00	Histidine, Post-col Ninhydrin Der (%)	17	**17**	0.2555	0.0211	**0.2552**	0.0205	0.0062	8.02%	0.0059	4.91%
127.05	Histidine, Pre-col AQC Der (%)	5	4	0.2431	0.0211	0.2431	0.0211	0.0122	8.67%	0.0003	4.95%
127.02	Histidine, Post-col OPA Der (%)	1	1	0.2530							
127.99	Histidine, Miscellaneous (%)	1	1	0.2600							
128.00	Isoleucine, Post-col Ninhydrin Der (%)	17	**17**	0.3055	0.0314	**0.3050**	0.0308	0.0093	10.09%	0.0076	4.78%
128.05	Isoleucine, Pre-col AQC Der (%)	5	5	0.2995	0.0243	0.2995	0.0243	0.0109	8.13%	0.0030	4.80%
128.02	Isoleucine, Post-col OPA Der (%)	1	1	0.3080							
128.99	Isoleucine, Miscellaneous (%)	1	1	0.3050							
129.00	Leucine, Post-col Ninhydrin Der (%)	17	**16**	0.4921	0.0346	**0.4936**	0.0359	0.0112	7.28%	0.0064	4.45%
129.05	Leucine, Pre-col AQC Der (%)	5	4	0.4845	0.0090	0.4845	0.0090	0.0045	1.86%	0.0050	4.46%
129.02	Leucine, Post-col OPA Der (%)	1	1	0.5025							
129.99	Leucine, Miscellaneous (%)	1	1	0.4950							
130.00	L-Lysine, Post-col Ninhydrin Der (%)	17	**17**	0.4706	0.0219	**0.4731**	0.0186	0.0056	3.93%	0.0072	4.48%
130.05	L-Lysine, Pre-col AQC Der (%)	5	3	0.4572	0.0150	0.4572	0.0150	0.0106	3.29%	0.0003	4.50%
130.02	L-Lysine, Post-col OPA Der (%)	1	1	0.5785							
130.99	L-Lysine, Miscellaneous (%)	1	1	0.5600							
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	18	**18**	0.1300	0.0243	**0.1338**	0.0132	0.0039	9.89%	0.0060	5.41%
131.05	Methionine, PAO Pre-col AQC Der (%)	5	4	0.1100	0.0609	0.1100	0.0609			0.0000	5.58%
131.02	Methionine, PAO Post-col OPA Der (%)	1	1	0.1260							
131.99	Methionine, Miscellaneous (%)	1	1	0.1350							
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	17	**16**	0.2897	0.0340	**0.2896**	0.0377	0.0118	13.03%	0.0060	4.82%
132.05	Phenylalanine, Pre-col AQC Der (%)	5	5	0.2677	0.0248	0.2677	0.0248	0.0111	9.26%	0.0050	4.88%
132.02	Phenylalanine, Post-col OPA Der (%)	1	1	0.2945							
132.99	Phenylalanine, Miscellaneous (%)	1	1	0.2900							
133.00	Proline, Post-col Ninhydrin Der (%)	17	**16**	0.3461	0.0397	**0.3483**	0.0397	0.0124	11.38%	0.0128	4.69%
133.05	Proline, Pre-col AQC Der (%)	5	4	0.3978	0.0799	0.3978	0.0799	0.0461	20.09%	0.0005	4.60%
133.99	Proline, Miscellaneous (%)	1	1	0.3700							
134.00	Serine, Post-col Ninhydrin Der (%)	17	**17**	0.3956	0.0181	**0.3956**	0.0206	0.0062	5.20%	0.0058	4.60%
134.05	Serine, Pre-col AQC Der (%)	5	5	0.3818	0.0327	0.3818	0.0327	0.0146	8.56%	0.0104	4.62%
134.02	Serine, Post-col OPA Der (%)	1	1	0.3575							
134.99	Serine, Miscellaneous (%)	1	1	0.4000							
135.00	Threonine, Post-col Ninhydrin Der (%)	17	**17**	0.3713	0.0127	**0.3712**	0.0139	0.0042	3.74%	0.0056	4.64%

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135.05	Threonine, Pre-col AQC Der (%)	5	5	0.3493	0.0369	0.3493	0.0369	0.0165	10.55%	0.0062	4.69%
135.02	Threonine, Post-col OPA Der (%)	1	1	0.3690							
135.99	Threonine, Miscellaneous (%)	1	1	0.3850							
136.00	Tryptophan, Alka-Hydrol Post-col Ninhyd (%)	6	5	0.0933	0.0194	0.0933	0.0194	0.0109	20.83%	0.0006	5.72%
136.03	Tryptophan, Alka-Hydrol + IS RP LC Fl (%)	5	4	0.0869	0.0039	0.0869	0.0039	0.0020	4.53%	0.0016	5.78%
136.01	Tryptophan, Alka-Hydrol Rev Phase LC UV (%)	3	3	0.0878	0.0077	0.0878	0.0077	0.0044	8.71%	0.0017	5.77%
136.05	Tryptophan, Pre-col AQC Der (%)	2	2	0.0678	0.0145						
136.02	Tryptophan, Alka-Hydrol Post-col OPA De (%)	1	1	0.0835							
137.00	Tyrosine, Post-col Ninhydrin Der (%)	12	**12**	0.3244	0.0490	**0.3312**	0.0365	0.0132	11.02%	0.0146	4.72%
137.05	Tyrosine, Pre-col AQC Der (%)	5	3	0.3732	0.0153	0.3732	0.0153	0.0108	4.11%	0.0003	4.64%
137.02	Tyrosine, Post-col OPA Der (%)	1	1	0.3180							
137.99	Tyrosine, Miscellaneous (%)	1	1	0.3300							
138.00	Valine, Post-col Ninhydrin Der (%)	17	**17**	0.4526	0.0519	**0.4613**	0.0296	0.0090	6.42%	0.0118	4.49%
138.05	Valine, Pre-col AQC Der (%)	5	5	0.4566	0.0288	0.4566	0.0288	0.0129	6.31%	0.0068	4.50%
138.02	Valine, Post-col OPA Der (%)	1	1	0.4840							
138.99	Valine, Miscellaneous (%)	1	1	0.4900							
139.00	Taurine, Post-col Ninhydrin Der (%)	1	1	0.0580							
139.05	Taurine, Pre-col AQC Der (%)	1	1	0.0035							
139.02	Taurine, Post-col OPA Der (%)	1		0.0100							
139.99	Taurine, Miscellaneous (%)	1		0.0100							
160.99	Fructose, Miscellaneous (%)	2	1	0.1000							
162.99	Glucose, Miscellaneous (%)	3	1								
163.99	Lactose, Miscellaneous (%)	3									
164.99	Maltose, Miscellaneous (%)	3									
165.99	Sucrose, Miscellaneous (%)	3	3	9.178	0.2580	9.178	0.2580	0.1824	2.81%	0.1900	2.87%
166.99	Raffinose, Miscellaneous (%)	1	1	0.3600							
167.99	Stachyose, Miscellaneous (%)	1		0.0500							
400.01	Water Activity, Aqualab chilled mirror (Units)	8	**8**	0.4685	0.0718	**0.4919**	0.0090	0.0040	1.83%	0.0040	
400.99	Water Activity, Miscellaneous (Units)	3	3	0.4947	0.0078	0.4947	0.0078	0.0055	1.58%	0.0053	
516.52	Arsenic, Total, ICP-MS, Open vessel (ppm)	3	3	0.1918	0.0353	0.1918	0.0353	0.0204	18.38%	0.0110	20.51%
516.53	Arsenic, Total, ICP-MS, Microwave (ppm)	3	3	0.2240	0.0584	0.2240	0.0584	0.0337	26.08%	0.0140	20.04%
516.00	Arsenic, Total, AA, Hydride (ppm)	2	2	0.1845	0.0078						
516.43	Arsenic, Total, ICP, Microwave (ppm)	2	1	0.9175							
518.43	Cadmium, ICP, Microwave (ppm)	3	3	0.2157	0.0210	0.2157	0.0210	0.0149	9.74%	0.0066	20.15%
518.52	Cadmium, ICP-MS, Open vessel (ppm)	3	3	0.2185	0.0416	0.2185	0.0416	0.0240	19.02%	0.0297	20.11%
518.53	Cadmium, ICP-MS, Microwave (ppm)	3	3	0.2038	0.0037	0.2038	0.0037	0.0021	1.81%	0.0077	20.32%
518.41	Cadmium, ICP, Dry ash (ppm)	2	2	0.0469	0.0172						
520.43	Chromium, ICP, Microwave (ppm)	4	3	30.05	1.148	30.05	1.148	0.6628	3.82%	0.3840	9.59%
520.53	Chromium, ICP-MS, Microwave (ppm)	3	3	27.66	2.161	27.66	2.161	1.248	7.81%	0.8467	9.71%
520.41	Chromium, ICP, Dry ash (ppm)	2	2	16.95	1.559						

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520.42	Chromium, ICP, Open vessel (ppm)	1	1	26.43							
520.52	Chromium, ICP-MS, Open vessel (ppm)	1	1	6.305							
526.53	Lead, ICP-MS, Microwave (ppm)	3	3	0.3853	0.0144	0.3853	0.0144	0.0083	3.73%	0.0160	18.47%
526.41	Lead, ICP, Dry ash (ppm)	2	2	5.794	7.681						
526.43	Lead, ICP, Microwave (ppm)	3	2	0.4217	0.1354	0.4217	0.1354			0.0526	18.22%
526.52	Lead, ICP-MS, Open vessel (ppm)	2	2	0.3875	0.0601						
529.99	Mercury, Miscellaneous (ppb)	3	2	12.34	17.41	12.34	17.41			0.1070	22.00%
539.41	Nickel, ICP, Dry ash (ppm)	2	2	10.22	1.239						
539.43	Nickel, ICP, Microwave (ppm)	2	2	12.34	2.136						
539.53	Nickel, ICP-MS, Microwave (ppm)	2	2	11.90	0.8521						
539.52	Nickel, ICP-MS, Open vessel (ppm)	1	1	3.175							
710.99	Lauric Acid (12:0), Miscellaneous (% (w/w))	3	1								
714.99	Myristic Acid (14:0), Miscellaneous (% (w/w))	2	1	0.0050							
716.99	Palmitic Acid (16:0), Miscellaneous (% (w/w))	2	2	0.2958	0.0421						
718.99	Palmitoleic Acid (9c-16:1), Miscellaneous (% (w/w))	2	2	0.0060	0.0050						
722.99	Stearic Acid (18:0), Miscellaneous (% (w/w))	2	1	0.0050							
724.99	Oleic Acid (9c-18:1), Miscellaneous (% (w/w))	2	2	0.0955	0.0177						
726.99	Linoleic Acid (9c,12c-18:2), Miscellaneous (% (w/w))	3	3	0.4677	0.0223	0.4677	0.0223	0.0129	4.76%	0.0047	4.48%
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3), Miscellaneous (% (w/w))	3	3	0.0593	0.0055	0.0593	0.0055	0.0039	9.29%	0.0007	6.12%
730.99	Arachidic Acid (20:0), Miscellaneous (% (w/w))	2	1	0.0035							
732.99	Gondoic Acid (11c-20:1), Miscellaneous (% (w/w))	2	1	0.0040							
736.99	Arachidonic Acid (5c,8c,11c,14c-20:4), Miscellaneous (% (w/w))	1	1	0.0070							
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))	2	1	0.0085							
744.99	Erucic Acid (13c-22:1), Miscellaneous (% (w/w))	1		0.0050							
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	0.0155							
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))	2	2	0.0690	0.0127						
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids, Miscellaneous (% (w/w))	2	2	0.5008	0.0060						
758.99	Total Saturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.4030							
762.99	Total Monounsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.1500							
766.99	Total Polyunsaturated Fatty Acids, Miscellaneous (% (w/w))	1	1	0.5810							
770.99	Total Fat (equivalent to NLEA), Miscellaneous (% (w/w))	1	1	1.211							
772.99	Total Fatty Acids, Miscellaneous (% (w/w))	2	2	1.025	0.1831						

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.

Test Material Code # 202027 **(Precision Report Follows)** **Issue Date : 08/31/2020**

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

AAFCO Proficiency Testing Program

ANAB ACCREDITED ISO/IEC 17043 PROFICIENCY TESTING PROVIDER

AAFCO PTP Animal Feed Scheme

Animal Feed Scheme

Beet Pulp

Test Material Code # 202027

Method Precision Report

 # Methods Reported: 80

 # Labs Reporting: 175

Issue Date : 08/31/2020

Method Code	Analyte and Method	Total # Labs Submitting	# Labs used in Precision Calcs	Precision Mean	Precision SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.07	Loss on Drying, 104°C 3 hr, in malt (%)	45	39	7.889	0.3198	0.2099	0.0844	0.2263	2.64%	1.06%	2.85%	2.680
001.99	Loss on Drying, Miscellaneous (%)	23	21	7.605	1.453	0.7006	0.1205	0.7109	8.90%	1.53%	9.03%	5.901
002.01	Protein, Crude, Auto Kjel-Foss (%)	13	11	8.778	0.2019	0.1110	0.0423	0.1188	1.26%	0.48%	1.35%	2.805
002.05	Protein, Crude, Copper, Boric Acid (%)	28	26	8.835	0.1119	0.0614	0.0878	0.1071	0.70%	0.99%	1.21%	1.220
002.06	Protein, Crude, Combustion Nitrogen Analyzer (%)	119	109	8.996	0.3745	0.2480	0.0800	0.2605	2.77%	0.89%	2.91%	3.258
003.06	Fat, Crude, Pet Ether (%)	14	12	0.7816	0.1987	0.1466	0.0499	0.1549	19.78%	6.74%	20.90%	3.103
003.09	Fat, Crude, Randall, Diethyl Ether Ext (%)	14	13	0.9294	0.3009	0.2998	0.0359	0.3020	32.26%	3.86%	32.49%	8.420
003.10	Fat, Crude, Randall, Pet Ether (%)	26	26	0.6555	0.2117	0.2105	0.0327	0.2130	32.11%	4.99%	32.49%	6.510
003.14	Fat, Crude, Ankom (%)	55	48	0.7082	0.2564	0.2112	0.0739	0.2238	30.64%	10.71%	32.46%	3.030
004.00	Fiber, Crude, Asbestos Free (%)	17	14	16.36	1.068	0.7851	0.1386	0.7973	4.87%	0.86%	4.95%	5.753
004.06	Fiber, Crude, Fibertec (%)	17	15	16.31	0.4885	0.3868	0.1147	0.4035	2.38%	0.71%	2.48%	3.518
004.07	Fiber, Crude, ANKOM (%)	72	65	16.35	0.9516	0.7802	0.2507	0.8195	4.80%	1.54%	5.04%	3.269
005.00	Ash, 2h @ 600°C (%)	88	82	9.611	0.3988	0.3407	0.1005	0.3552	3.54%	1.04%	3.69%	3.533
005.05	Ash, 3h @ 550°C (%)	35	32	9.948	0.3269	0.2849	0.0982	0.3014	2.86%	0.98%	3.02%	3.068
006.99	Total Sugars, Miscellaneous (%)	8	8	10.19	1.014	0.9845	0.3445	1.043	9.66%	3.38%	10.23%	3.028
008.02	Fiber, Acid Detergent, Crucible (%)	10	10	21.91	0.8769	0.8616	0.2305	0.8919	3.93%	1.05%	4.07%	3.869
008.08	Fiber, Acid Detergent, Filter Bag - ANKOM (%)	42	41	21.15	0.9431	0.7954	0.2559	0.8355	3.75%	1.21%	3.94%	3.265
009.07	Fiber, Neutral Detergent, AOAC -ENZ Pretreat (%)	11	10	34.06	2.851	1.804	0.4866	1.869	5.40%	1.46%	5.60%	3.841
009.09	Fiber, Neutral Detergent, Filter Bag - ANKOM (%)	43	39	32.58	2.025	1.763	0.3026	1.789	5.46%	0.94%	5.54%	5.911
010.99	Moisture, Miscellaneous (%)	17	15	8.080	0.7180	0.6340	0.1277	0.6467	7.97%	1.61%	8.13%	5.063
011.01	Loss on Drying, 135°C 2hr (%)	65	58	8.739	0.4673	0.3698	0.0944	0.3816	4.21%	1.07%	4.35%	4.045
012.00	Starch, Polarimetric (Ewers) (%)	9	9	12.92	6.872	6.867	0.3742	6.877	53.17%	2.90%	53.25%	18.38
012.01	Starch, Enzymatic-Colorimetric Method (Megazyme) (%)	11	9	0.8587	0.5217	0.5165	0.1039	0.5269	60.15%	12.10%	61.36%	5.070
013.00	Fat, Acid Pretreat, Acid hydrolysis (%)	17	16	2.133	0.9115	0.6950	0.2062	0.7249	34.96%	10.37%	36.46%	3.516
013.02	Fat, Acid Pretreat, Mojonnier, Bak Ext (%)	19	18	2.193	0.4661	0.4593	0.1120	0.4728	20.94%	5.11%	21.56%	4.220
019.00	Calcium, Ox-Mn04 Vol. (%)	11	9	1.220	0.0703	0.0730	0.0158	0.0747	6.00%	1.30%	6.14%	4.734
019.31	Calcium, AAS, Dry ash (%)	18	16	1.263	0.0511	0.0342	0.0313	0.0464	2.68%	2.46%	3.64%	1.481
019.41	Calcium, ICP, Dry ash (%)	27	24	1.234	0.0801	0.0519	0.0190	0.0553	4.17%	1.52%	4.44%	2.915
019.42	Calcium, ICP, Open vessel (%)	19	17	1.270	0.0901	0.0911	0.0191	0.0931	7.19%	1.50%	7.35%	4.882
019.43	Calcium, ICP, Microwave (%)	29	27	1.308	0.0978	0.0728	0.0373	0.0818	5.63%	2.89%	6.33%	2.191
022.41	Copper, ICP, Dry ash (ppm)	17	13	6.906	1.470	1.047	0.4373	1.135	15.74%	6.57%	17.05%	2.595
022.42	Copper, ICP, Open vessel (ppm)	18	17	6.242	0.8982	0.6599	0.3463	0.7453	10.81%	5.67%	12.21%	2.152
022.43	Copper, ICP, Microwave (ppm)	20	19	6.410	2.519	1.143	0.4317	1.222	19.34%	7.31%	20.67%	2.830
025.41	Iron, ICP, Dry ash (ppm)	20	18	675.8	161.4	131.7	20.50	133.2	19.09%	2.97%	19.32%	6.500
025.42	Iron, ICP, Open vessel (ppm)	15	14	609.3	187.4	186.9	19.49	187.9	30.68%	3.20%	30.84%	9.641
025.43	Iron, ICP, Microwave (ppm)	19	16	735.4	209.4	104.4	19.41	106.2	13.50%	2.51%	13.73%	5.473

Test Material Code # 202027 **Issue Date : 08/31/2020**

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
027.31	Magnesium, AAS, Dry ash (%)	14	11	0.2227	0.1588	0.1245	0.0005	0.1245	63.66%	0.25%	63.66%	257.5
027.41	Magnesium, ICP, Dry ash (%)	21	19	0.1490	0.0116	0.0058	0.0047	0.0074	3.83%	3.07%	4.91%	1.599
027.42	Magnesium, ICP, Open vessel (%)	21	20	0.1517	0.0066	0.0050	0.0064	0.0081	3.27%	4.19%	5.32%	1.269
027.43	Magnesium, ICP, Microwave (%)	27	24	0.1532	0.0097	0.0088	0.0046	0.0099	5.72%	3.01%	6.46%	2.149
028.41	Manganese, ICP, Dry ash (ppm)	18	16	54.37	4.202	2.569	0.8931	2.720	4.65%	1.62%	4.93%	3.046
028.42	Manganese, ICP, Open vessel (ppm)	18	16	55.07	3.395	3.452	0.8568	3.556	6.27%	1.56%	6.46%	4.151
028.43	Manganese, ICP, Microwave (ppm)	20	19	56.50	2.975	2.878	1.065	3.068	5.09%	1.88%	5.43%	2.881
031.01	Phosphorus, Photometric (%)	24	21	0.0956	0.0292	0.0283	0.0055	0.0288	30.20%	5.88%	30.76%	5.230
031.41	Phosphorus, ICP, Dry ash (%)	24	22	0.0824	0.0045	0.0034	0.0043	0.0055	4.11%	5.23%	6.65%	1.271
031.42	Phosphorus, ICP, Open vessel (%)	20	17	0.0825	0.0091	0.0041	0.0038	0.0055	5.02%	4.65%	6.84%	1.472
031.43	Phosphorus, ICP, Microwave (%)	28	24	0.0841	0.0089	0.0047	0.0030	0.0056	5.69%	3.66%	6.76%	1.851
032.31	Potassium, AAS, Dry ash (%)	13	12	1.356	0.0989	0.0722	0.0233	0.0759	5.40%	1.75%	5.68%	3.251
032.41	Potassium, ICP, Dry ash (%)	23	21	1.313	0.1458	0.0601	0.0254	0.0652	4.48%	1.90%	4.86%	2.566
032.42	Potassium, ICP, Open vessel (%)	20	19	1.355	0.0870	0.0854	0.0330	0.0915	6.29%	2.43%	6.75%	2.777
032.43	Potassium, ICP, Microwave (%)	29	26	1.382	0.0736	0.0635	0.0213	0.0670	4.58%	1.54%	4.83%	3.142
033.00	Salt as chloride, Sol Cl (%)	13	10	0.3054	0.0624	0.0389	0.0162	0.0421	12.17%	5.06%	13.18%	2.607
033.01	Salt as chloride, Poten Cl (%)	20	18	0.3456	0.0479	0.0202	0.0067	0.0213	6.03%	2.00%	6.35%	3.168
033.99	Salt, Miscellaneous (%)	8	8	0.5198	0.4519	0.4519	0.0101	0.4520	86.93%	1.94%	86.95%	44.79
035.31	Sodium, AAS, Dry ash (%)	13	12	0.4718	0.0237	0.0217	0.0135	0.0255	4.60%	2.86%	5.41%	1.894
035.41	Sodium, ICP, Dry ash (%)	25	24	0.4569	0.0405	0.0260	0.0120	0.0286	5.61%	2.58%	6.17%	2.391
035.42	Sodium, ICP, Open vessel (%)	18	17	0.4676	0.0306	0.0295	0.0122	0.0319	6.33%	2.61%	6.85%	2.626
035.43	Sodium, ICP, Microwave (%)	28	25	0.4838	0.0311	0.0219	0.0131	0.0255	4.49%	2.69%	5.23%	1.943
036.42	Sulfur, ICP, Open vessel (%)	21	21	0.6224	0.0431	0.0416	0.0158	0.0445	6.69%	2.54%	7.15%	2.813
036.43	Sulfur, ICP, Microwave (%)	20	19	0.6771	0.0457	0.0452	0.0179	0.0486	6.67%	2.65%	7.18%	2.712
037.41	Zinc, ICP, Dry ash (ppm)	18	16	23.36	7.644	5.685	0.7796	5.738	26.11%	3.58%	26.35%	7.361
037.42	Zinc, ICP, Open vessel (ppm)	16	14	25.36	5.172	3.927	1.296	4.135	16.04%	5.29%	16.89%	3.191
037.43	Zinc, ICP, Microwave (ppm)	20	17	23.30	6.556	3.441	1.126	3.620	14.40%	4.71%	15.15%	3.215
120.00	Alanine, Post-col Ninhydrin Der (%)	17	16	0.3875	0.0198	0.0154	0.0063	0.0166	3.94%	1.62%	4.26%	2.635
121.00	Arginine, Post-col Ninhydrin Der (%)	17	16	0.3219	0.0239	0.0233	0.0071	0.0244	7.25%	2.20%	7.58%	3.447
122.00	Aspartic, Post-col Ninhydrin Der (%)	17	16	0.6571	0.0286	0.0287	0.0079	0.0297	4.37%	1.20%	4.53%	3.770
124.00	Cysteine/Cystine, PAO Post-col Ninhydri (%)	18	18	0.1085	0.0305	0.0303	0.0040	0.0306	27.95%	3.67%	28.19%	7.676
125.00	Glutamic, Post-col Ninhydrin Der (%)	17	16	1.091	0.0496	0.0470	0.0116	0.0484	4.33%	1.07%	4.46%	4.167
126.00	Glycine, Post-col Ninhydrin Der (%)	17	17	0.3717	0.0182	0.0173	0.0080	0.0191	4.66%	2.14%	5.13%	2.395
127.00	Histidine, Post-col Ninhydrin Der (%)	17	17	0.2555	0.0211	0.0207	0.0053	0.0214	8.11%	2.06%	8.36%	4.054
128.00	Isoleucine, Post-col Ninhydrin Der (%)	17	16	0.3055	0.0314	0.0320	0.0063	0.0326	10.50%	2.06%	10.70%	5.193
129.00	Leucine, Post-col Ninhydrin Der (%)	17	15	0.4921	0.0346	0.0355	0.0049	0.0358	7.22%	0.99%	7.29%	7.339
130.00	L-Lysine, Post-col Ninhydrin Der (%)	17	15	0.4706	0.0219	0.0129	0.0058	0.0141	2.70%	1.21%	2.95%	2.446
131.00	Methionine, PAO Post-col Ninhydrin Der (%)	18	16	0.1300	0.0243	0.0122	0.0046	0.0131	9.05%	3.43%	9.68%	2.826
132.00	Phenylalanine, Post-col Ninhydrin Der (%)	17	15	0.2897	0.0340	0.0310	0.0041	0.0312	10.83%	1.44%	10.93%	7.604
133.00	Proline, Post-col Ninhydrin Der (%)	17	16	0.3461	0.0397	0.0389	0.0112	0.0405	11.25%	3.23%	11.70%	3.621
134.00	Serine, Post-col Ninhydrin Der (%)	17	17	0.3956	0.0181	0.0178	0.0051	0.0185	4.50%	1.29%	4.68%	3.636
135.00	Threonine, Post-col Ninhydrin Der (%)	17	16	0.3713	0.0127	0.0125	0.0043	0.0132	3.37%	1.15%	3.56%	3.091
137.00	Tyrosine, Post-col Ninhydrin Der (%)	12	10	0.3244	0.0490	0.0240	0.0097	0.0259	7.25%	2.92%	7.81%	2.680
138.00	Valine, Post-col Ninhydrin Der (%)	17	16	0.4526	0.0519	0.0254	0.0101	0.0273	5.48%	2.19%	5.90%	2.695

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