METHOD
Summary Statistics

202624 (Equine Feed)

Issue Date: 5/31/2026

Code	Analyte / Method	[1] Trueness (Lab Value) Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD	[2] Thompson Horwitz %RSD	[3] Precision (range) Robust Mean	n used
001.07	Loss on Drying/104°C 3 hr, in malt (%)	**9.525**	**29**	**0.0674**	**0.2903**	**3.05**	**2.85**	**0.1371**	**26**
001.99	Loss on Drying/Miscellaneous (%)	**9.599**	**15**	**0.1357**	**0.4205**	**4.38**	**2.84**	**0.1628**	**14**
001.00	Loss on Drying/Vac 95°C 5 hr (%)	9.229	4	0.4297	0.6876	7.45	**2.86**	0.0503	4
001.03	Loss on Drying/Low temp. methods (%)	9.835	1					0.03	1
002.06	Protein, Crude/Combustion Nitrogen Analyzer (%)	**13.75**	**87**	**0.0448**	**0.3342**	**2.43**	**2.69**	**0.1885**	**78**
002.05	Protein, Crude/Copper, Boric Acid (%)	**13.57**	**14**	**0.0692**	**0.2071**	**1.53**	**2.7**	**0.0735**	**13**
002.01	Protein, Crude/Auto Kjel-Foss (%)	**13.57**	**12**	**0.0661**	**0.1831**	**1.35**	**2.7**	**0.1606**	**8**
002.11	Protein, Crude/NIR (%)	14.1	5	0.9781	1.75	12.4	**2.66**	0.208	5
002.08	Protein, Crude/Cu/Ti (%)	13.6	2		0.0023			0.1156	2
002.02	Protein, Crude/Semiauto Autoanalyzer (%)	13.58	2		0.2687			0.07	2
002.04	Protein, Crude/Copper Catalyst (%)	13.56	2		0.1308			0.195	2
002.00	Protein, Crude/Crude (%)	12.84	1					0.03	1
002.99	Protein, Crude/Miscellaneous (%)	14.28	1					0.31	1

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
003.14	Fat, Crude/Ankom (%)	**5.028**	**46**	**0.0388**	**0.2105**	**4.19**	**3.13**	**0.1146**	**43**
003.10	Fat, Crude/Randall, Pet Ether (%)	**4.847**	**23**	**0.0463**	**0.1778**	**3.67**	**3.15**	**0.0985**	**20**
003.06	Fat, Crude/Pet Ether (%)	**4.86**	**13**	**0.1279**	**0.369**	**7.59**	**3.15**	**0.1333**	**11**
003.09	Fat, Crude/Randall, Diethyl Ether Ext (%)	**5.039**	**8**	**0.0807**	**0.1826**	**3.62**	**3.13**	**0.1217**	**8**
003.12	Fat, Crude/Hexane Ext (%)	4.995	5	0.2051	0.3668	7.34	**3.14**	0.29	5
003.00	Fat, Crude/Diethyl Ether Ext., Direct (%)	5.229	5	0.1517	0.2714	5.19	**3.11**	0.134	5
003.11	Fat, Crude/NIR (%)	5.272	4	0.124	0.1984	3.76	**3.11**	0.04	4
003.01	Fat, Crude/Diethyl Ether Ext (13th ed.), Indirect (%)	5.049	3	0.1602	0.222	4.4	**3.13**	0.1355	3
003.13	Fat, Crude/Randall, Hexane Ext. (%)	5.325	2		0.0212			0.29	2
003.99	Fat, Crude/Miscellaneous (%)	4.018	2		1.128			0.365	2
004.07	Fiber, Crude/ANKOM (%)	**17.99**	**63**	**0.1022**	**0.6491**	**3.61**	**2.36**	**0.2638**	**59**
004.06	Fiber, Crude/Fibertec (%)	**18.17**	**14**	**0.2116**	**0.6334**	**3.49**	**2.35**	**0.2383**	**12**
004.00	Fiber, Crude/Asbestos Free (%)	**17.99**	**7**	**0.5954**	**1.26**	**7.01**	**2.36**	**0.1871**	**7**
004.11	Fiber, Crude/NIR (%)	13.41	3	2.097	2.906	21.7	**2.7**	0.26	3
004.99	Fiber, Crude/Miscellaneous (%)	19.13	2		0.7606			0.67055	2
004.03	Fiber, Crude/Fritted Glass (%)	17.72	2		0.8096			0.43	1
005.00	Ash/2h @ 600°C (%)	**7.948**	**83**	**0.029**	**0.2116**	**2.66**	**2.92**	**0.1076**	**75**
005.05	Ash/3h @ 550°C (%)	**8.212**	**15**	**0.0923**	**0.2861**	**3.48**	**2.91**	**0.0456**	**12**
005.99	Ash/Miscellaneous (%)	8.528	4	0.1222	0.1956	2.29	**2.89**	0.145	4

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
005.11	Ash/NIR (%)	7.45	4	0.6597	1.056	14.2	**2.95**	0.065	4
005.03	Ash/Microwave furnace (%)	8.155	2		0.1485			0.41	2
006.99	Total Sugars/Miscellaneous (%)	4.94	5	0.66	1.181	23.9	**3.14**	0.384	5
006.00	Total Sugars/As sucrose (%)	5.52	3	0.1986	0.2751	4.98	**3.09**		
006.01	Total Sugars/Mod. Fehling Soln (%)	5.92	1					0.46	1
008.08	Fiber, Acid Detergent/Filter Bag - ANKOM (%)	**22.62**	**39**	**0.2512**	**1.255**	**5.55**	**2.1**	**0.3695**	**35**
008.02	Fiber, Acid Detergent/Crucible (%)	**23.35**	**8**	**0.3365**	**0.7614**	**3.26**	**2.07**	**0.5566**	**7**
008.99	Fiber, Acid Detergent/Miscellaneous (%)	22.1	2		0.9214			0.352	2
009.09	Fiber, Neutral Detergent/Filter Bag - ANKOM (%)	**35.84**	**36**	**0.2568**	**1.233**	**3.44**	**1.67**	**0.3317**	**33**
009.07	Fiber, Neutral Detergent/AOAC -ENZ Pretreat (%)	**36.62**	**7**	**0.9293**	**1.967**	**5.37**	**1.65**	0.234	5
010.99	Moisture/Miscellaneous (%)	**9.653**	**18**	**0.1483**	**0.5034**	**5.21**	**2.84**	**0.1396**	**17**
010.11	Moisture/NIR (%)	10.31	3	0.7318	1.014	9.83	**2.81**		
010.03	Moisture/Karl-Fischer (%)	9.56	1					0.08	1
011.01	Loss on Drying/135°C 2hr (%)	**10.47**	**55**	**0.0578**	**0.3432**	**3.28**	**2.81**	**0.1201**	**51**
011.02	Loss on Drying/130°C for 2 hours (%)	10.41	2		0.1379			0.245	2
011.99	Loss on Drying/High Temp. Methods Miscellaneous (%)	9.17	1					0.32	1
012.04	Starch/Enzymatic-Enzyme Membrane Technology (YSI) (%)	**13.3**	**10**	**0.6999**	**1.771**	**13.3**	**2.71**	**0.3566**	**8**
012.01	Starch/Enzymatic-Colorimetric Method (Megazyme) (%)	**12.73**	**8**	**0.6428**	**1.454**	**11.4**	**2.72**	**0.3898**	**7**
012.00	Starch/Polarimetric (Ewers) (%)	**14.96**	**8**	**0.3932**	**0.8896**	**5.95**	**2.59**	**0.1425**	**6**

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
012.03	Starch/Enzymatic-Colorimetric Method, Miscellaneous (%)	11.83	2		1.661			0.4235	2
012.11	Starch/NIR (%)	20.82	2		7.255			0.12	2
012.20	Starch/Dietary, Enzymatic-Colorimetric (%)	12.64	1					0.27	1
012.99	Starch/Miscellaneous (%)	13.88	1					0.07	1
013.00	Fat, Pretreat/Acid hydrolysis (%)	**5.897**	**15**	**0.1427**	**0.4422**	**7.5**	**3.06**	**0.1938**	**14**
013.02	Fat, Pretreat/Mojonnier, Bak Ext (%)	**6.371**	**13**	**0.2956**	**0.8526**	**13.4**	**3.02**	**0.2403**	**13**
013.13	Fat, Pretreat/Ankom- Acid Hydrolysis (%)	**6.242**	**11**	**0.212**	**0.5626**	**9.01**	**3.03**	**0.1515**	**11**
013.10	Fat, Pretreat/Soxtec-Acid Hydrolysis (%)	5.929	5	0.3604	0.6448	10.9	**3.06**	0.0825	4
013.08	Fat, Pretreat/Roese-Gottlieb Modified (%)	3.73	1					0.8	1
014.02	Fiber, Total Dietary/ANKOM Enz-Grav (%)	42.1	1					0.4	1
015.43	Aluminum/ICP, Microwave (ppm)	**246.6**	**7**	**12.02**	**25.45**	**10.3**	**6.95**	**3.299**	**7**
015.41	Aluminum/ICP, Dry ash (ppm)	226.2	3	10.35	14.35	6.34	**7.04**	6.136	3
015.53	Aluminum/ICP-MS, Microwave (ppm)	243.7	2		22.94			8.54145	2
015.42	Aluminum/ICP, Open vessel (ppm)	165.9	2		134.9			12.55	2
017.43	Boron/ICP, Microwave (ppm)	**15.51**	**7**	**0.9892**	**2.094**	**13.5**	**10.5**	0.5254	5
017.41	Boron/ICP, Dry ash (ppm)	16.52	4	0.2352	0.3764	2.28	**10.4**	0.497	4
017.42	Boron/ICP, Open vessel (ppm)	18.45	4	2.321	3.714	20.1	**10.3**	1.387	3
017.53	Boron/ICP-MS, Microwave (ppm)	16.56	1					1.0481	1
017.52	Boron/ICP-MS, Open vessel (ppm)	16.05	1					0.2901	1

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
019.43	Calcium/ICP, Microwave (%)	**1.005**	**36**	**0.0106**	**0.051**	**5.07**	**3.99**	**0.0221**	**33**
019.42	Calcium/ICP, Open vessel (%)	**1.022**	**19**	**0.023**	**0.0802**	**7.84**	**3.98**	**0.0443**	**17**
019.41	Calcium/ICP, Dry ash (%)	**0.9911**	**17**	**0.0115**	**0.0378**	**3.82**	**4**	**0.0273**	**15**
019.31	Calcium/AAS, Dry ash (%)	**1.019**	**12**	**0.0269**	**0.0746**	**7.32**	**3.98**	**0.0299**	**9**
019.08	Calcium/EDTA (%)	**1.035**	**9**	**0.0115**	**0.0275**	**2.66**	**3.97**	0.0441	5
019.99	Calcium/Miscellaneous (%)	**1.17**	**6**	**0.0826**	**0.1619**	**13.8**	**3.9**	**0.0811**	**6**
019.52	Calcium/ICP-MS, Open vessel (%)	1.025	4	0.0339	0.0542	5.29	**3.98**	0.0148	4
019.53	Calcium/ICP-MS, Microwave (%)	1.018	3	0.0539	0.0747	7.34	**3.98**	0.0212	3
019.44	Calcium/ICP, Dry ash (%)	0.9935	2		0.0049			0.063	2
019.00	Calcium/Ox-Mn04 Vol. (%)	1.422	2		0.1669			0.02145	2
019.32	Calcium/AAS, Open vessel (%)	1.095	1					0.01	1
021.43	Cobalt/ICP, Microwave (ppm)	**4.28**	**11**	**0.2079**	**0.5517**	**12.9**	**12.8**	**0.1515**	**10**
021.53	Cobalt/ICP-MS, Microwave (ppm)	4.443	4	0.2599	0.4159	9.36	**12.7**	0.4615	4
021.52	Cobalt/ICP-MS, Open vessel (ppm)	1.923	4	0.7811	1.25	65	**14.4**	0.1626	4
021.41	Cobalt/ICP, Dry ash (ppm)	4.418	4	0.2421	0.3873	8.77	**12.7**	0.243	4
021.42	Cobalt/ICP, Open vessel (ppm)	2.475	2		0.7425				
021.31	Cobalt/AAS, Dry ash (ppm)	4.775	2		0.7921			0.15125	2
021.99	Cobalt/Miscellaneous (ppm)	4.5	1					1	1
022.43	Copper/ICP, Microwave (ppm)	**63.12**	**28**	**1.177**	**4.983**	**7.89**	**8.53**	**2.707**	**27**

Code	Analyte / Method	[1] Trueness (Lab Value) Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD	[2] Thompson Horwitz %RSD	[3] Precision (range) Robust Mean	n used
022.42	Copper/ICP, Open vessel (ppm)	**63.13**	**18**	**1.431**	**4.857**	**7.69**	**8.53**	**3.082**	**18**
022.41	Copper/ICP, Dry ash (ppm)	**60.95**	**13**	**1.613**	**4.654**	**7.64**	**8.58**	**2.007**	**12**
022.31	Copper/AAS, Dry ash (ppm)	**62.03**	**9**	**1.835**	**4.403**	**7.1**	**8.55**	**1.605**	**8**
022.99	Copper/Miscellaneous (ppm)	68	4	3.656	5.849	8.6	**8.44**		
022.53	Copper/ICP-MS, Microwave (ppm)	61.79	4	2.053	3.284	5.31	**8.56**	4.317	3
022.44	Copper/ICP, Dry ash (ppm)	61.95	3	2.334	3.235	5.22	**8.56**	1.647	3
022.52	Copper/ICP-MS, Open vessel (ppm)	62.76	3	1.439	1.994	3.18	**8.54**	1.974	3
022.32	Copper/AAS, Open vessel (ppm)	66.35	1					7.3	1
024.52	Iodine/ICP-MS, Open vessel (ppm)	5.46	1					1.06	1
025.43	Iron/ICP, Microwave (ppm)	**415.4**	**28**	**4.804**	**20.33**	**4.89**	**6.43**	**7.654**	**26**
025.41	Iron/ICP, Dry ash (ppm)	**387.7**	**17**	**10.25**	**33.81**	**8.72**	**6.5**	**13.05**	**16**
025.42	Iron/ICP, Open vessel (ppm)	**356.4**	**17**	**16.48**	**54.35**	**15.2**	**6.58**	**16.21**	**17**
025.31	Iron/AAS, Dry ash (ppm)	**427.7**	**8**	**10.84**	**24.54**	**5.74**	**6.4**	**5.693**	**7**
025.99	Iron/Miscellaneous (ppm)	404.8	4	21.72	34.75	8.58	**6.46**	12.8	4
025.52	Iron/ICP-MS, Open vessel (ppm)	322.9	3	37.23	51.58	16	**6.68**	21	3
025.53	Iron/ICP-MS, Microwave (ppm)	399	3	15.7	21.76	5.45	**6.47**	17.71	3
027.43	Magnesium/ICP, Microwave (%)	**0.321**	**33**	**0.004**	**0.0182**	**5.66**	**4.73**	**0.0069**	**24**
027.42	Magnesium/ICP, Open vessel (%)	**0.3264**	**20**	**0.0059**	**0.0211**	**6.47**	**4.72**	**0.0104**	**18**
027.41	Magnesium/ICP, Dry ash (%)	**0.3205**	**15**	**0.0042**	**0.0131**	**4.1**	**4.73**	**0.0092**	**12**

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		Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
027.31	Magnesium/AAS, Dry ash (%)	**0.3171**	**8**	**0.0047**	**0.0106**	**3.34**	**4.74**	**0.0094**	**6**
027.52	Magnesium/ICP-MS, Open vessel (%)	0.3331	4	0.0082	0.0132	3.95	**4.71**	0.0049	4
027.99	Magnesium/Miscellaneous (%)	0.3954	4	0.0756	0.121	30.6	**4.59**	0.0188	4
027.53	Magnesium/ICP-MS, Microwave (%)	0.3206	3	0.0125	0.0173	5.39	**4.73**	0.0084	3
027.44	Magnesium/ICP, Dry ash (%)	0.3178	2		0.011			0.035	1
027.32	Magnesium/AAS, Open vessel (%)	0.325	1					0.01	1
028.43	Manganese/ICP, Microwave (ppm)	**362.1**	**27**	**4.261**	**17.71**	**4.89**	**6.56**	**8.457**	**27**
028.42	Manganese/ICP, Open vessel (ppm)	**368.4**	**19**	**7.441**	**25.95**	**7.04**	**6.55**	**16.04**	**19**
028.41	Manganese/ICP, Dry ash (ppm)	**353.4**	**14**	**5.704**	**17.07**	**4.83**	**6.59**	**13.72**	**13**
028.31	Manganese/AAS, Dry ash (ppm)	**373.1**	**7**	**10.58**	**22.39**	**6**	**6.54**	**2.778**	**6**
028.99	Manganese/Miscellaneous (ppm)	375.6	4	14.92	23.88	6.36	**6.53**	18.75	4
028.52	Manganese/ICP-MS, Open vessel (ppm)	366.3	3	8.487	11.76	3.21	**6.55**	32.08	3
028.44	Manganese/ICP, Dry ash (ppm)	334.8	3	29.9	41.43	12.4	**6.64**	15.53	3
028.53	Manganese/ICP-MS, Microwave (ppm)	358.4	3	6.488	8.989	2.51	**6.57**	24.51	3
028.32	Manganese/AAS, Open vessel (ppm)	392.5	1					7	1
028.00	Manganese/Color (ppm)	364.5	1					23	1
030.99	Nitrate/Miscellaneous (%)	0.0006	1					0.0003	1
031.43	Phosphorus/ICP, Microwave (%)	**0.4842**	**34**	**0.0055**	**0.0255**	**5.27**	**4.45**	**0.0099**	**31**
031.42	Phosphorus/ICP, Open vessel (%)	**0.4892**	**19**	**0.0069**	**0.024**	**4.9**	**4.44**	**0.0106**	**18**

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Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
031.01	Phosphorus/Photometric (%)	**0.4994**	**17**	**0.0075**	**0.0249**	**4.98**	**4.43**	**0.0126**	**11**
031.41	Phosphorus/ICP, Dry ash (%)	**0.4762**	**16**	**0.0114**	**0.0365**	**7.67**	**4.46**	**0.013**	**14**
031.99	Phosphorus/Miscellaneous (%)	**0.4644**	**6**	**0.0201**	**0.0394**	**8.48**	**4.48**	0.018	5
031.52	Phosphorus/ICP-MS, Open vessel (%)	0.4844	3	0.0122	0.017	3.5	**4.45**	0.0153	3
031.44	Phosphorus/ICP, Dry ash (%)	0.4703	3	0.0241	0.0334	7.1	**4.47**	0.0138	3
031.53	Phosphorus/ICP-MS, Microwave (%)	0.4946	3	0.0044	0.0061	1.24	**4.43**	0.0173	3
031.03	Phosphorus/Autoanalyzer (%)	0.4771	2		0.003			0.01215	2
032.43	Potassium/ICP, Microwave (%)	**1.541**	**34**	**0.0178**	**0.0831**	**5.39**	**3.74**	**0.0326**	**29**
032.42	Potassium/ICP, Open vessel (%)	**1.589**	**19**	**0.0311**	**0.1084**	**6.82**	**3.72**	**0.0478**	**15**
032.41	Potassium/ICP, Dry ash (%)	**1.547**	**15**	**0.0201**	**0.0623**	**4.03**	**3.74**	**0.0324**	**13**
032.31	Potassium/AAS, Dry ash (%)	**1.544**	**7**	**0.0265**	**0.0561**	**3.63**	**3.74**	0.0312	5
032.99	Potassium/Miscellaneous (%)	1.618	5	0.067	0.1199	7.41	**3.71**	0.0542	4
032.52	Potassium/ICP-MS, Open vessel (%)	1.553	4	0.0542	0.0868	5.59	**3.74**	0.0236	4
032.53	Potassium/ICP-MS, Microwave (%)	1.575	2		0.1061			0.0009	1
032.44	Potassium/ICP, Dry ash (%)	1.485	2		0.1273			0.14	2
032.02	Potassium/Flame Emission (%)	1.6	1					0.02	1
032.32	Potassium/AAS, Open vessel (%)	1.525	1					0.05	1
033.01	Salt as chloride/Poten Cl (%)	**0.8262**	**18**	**0.0094**	**0.0319**	**3.86**	**4.11**	**0.0173**	**12**
033.00	Salt as chloride/Sol Cl (%)	**0.8145**	**9**	**0.0232**	**0.0556**	**6.83**	**4.12**	**0.0214**	**7**

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
033.99	Salt/Miscellaneous (%)	**0.698**	**8**	**0.0907**	**0.2051**	**29.4**	**4.21**	**0.0119**	**8**
033.03	Salt as chloride/Quantab (%)	0.8175	2		0.0601			0.05	1
033.05	Salt as chloride/Ion Sel Electrode (%)	0.75	1					0.06	1
034.53	Selenium/ICP-MS, Microwave (ppm)	**0.5049**	**7**	**0.0317**	**0.0671**	**13.3**	**17.6**	**0.0544**	**7**
034.52	Selenium/ICP-MS, Open vessel (ppm)	0.5132	5	0.0321	0.0575	11.2	**17.6**	0.0173	4
034.04	Selenium/AA, Hydride (ppm)	0.4048	3	0.1109	0.1537	38	**18.2**	0.0655	3
034.43	Selenium/ICP, Microwave (ppm)	0.5018	2		0.0541			0.0285	2
034.99	Selenium/Miscellaneous (ppm)	1.262	2		0.3359			0.515	2
034.01	Selenium/Fluor (ppm)	0.4765	1					0.015	1
035.43	Sodium/ICP, Microwave (%)	**0.1791**	**31**	**0.0026**	**0.0116**	**6.46**	**5.16**	**0.0075**	**26**
035.41	Sodium/ICP, Dry ash (%)	**0.1808**	**18**	**0.0028**	**0.0095**	**5.24**	**5.16**	**0.0096**	**13**
035.42	Sodium/ICP, Open vessel (%)	**0.1803**	**17**	**0.0034**	**0.0113**	**6.28**	**5.16**	**0.0079**	**13**
035.31	Sodium/AAS, Dry ash (%)	**0.188**	**7**	**0.0126**	**0.0266**	**14.2**	**5.13**	**0.0106**	**6**
035.52	Sodium/ICP-MS, Open vessel (%)	0.1772	4	0.0063	0.0101	5.68	**5.17**	0.0036	4
035.53	Sodium/ICP-MS, Microwave (%)	0.1683	3	0.0067	0.0093	5.51	**5.21**		
035.99	Sodium/Miscellaneous (%)	0.4967	3	0.3959	0.5486	110	**4.43**		
035.05	Sodium/Flame Emission (%)	0.195	2		0.0071			0.02	1
035.32	Sodium/AAS, Open vessel (%)	0.205	1					0.01	1
036.43	Sulfur/ICP, Microwave (%)	**0.2179**	**25**	**0.003**	**0.0119**	**5.46**	**5.02**	**0.007**	**20**

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
036.42	Sulfur/ICP, Open vessel (%)	**0.2133**	**17**	**0.0055**	**0.0181**	**8.5**	**5.03**	**0.0077**	**13**
036.04	Sulfur/LECO (%)	**0.2142**	**6**	**0.0115**	**0.0225**	**10.5**	**5.03**	0.0155	4
036.52	Sulfur/ICP-MS, Open vessel (%)	0.2212	2		0.016			0.00405	2
036.99	Sulfur/Miscellaneous (%)	0.195	2		0			0.01	2
036.00	Sulfur/Gravimetric (%)	0.245	1					0.072	1
036.53	Sulfur/ICP-MS, Microwave (%)	0.1775	1					0.009	1
037.43	Zinc/ICP, Microwave (ppm)	**264**	**29**	**4.772**	**20.56**	**7.79**	**6.88**	**4.222**	**28**
037.42	Zinc/ICP, Open vessel (ppm)	**264.4**	**18**	**6.139**	**20.84**	**7.88**	**6.88**	**9.967**	**18**
037.41	Zinc/ICP, Dry ash (ppm)	**264**	**13**	**4.223**	**12.18**	**4.61**	**6.88**	**11.47**	**12**
037.31	Zinc/AAS, Dry ash (ppm)	**270.6**	**7**	**3.026**	**6.406**	**2.37**	**6.86**	**6.131**	**6**
037.99	Zinc/Miscellaneous (ppm)	249.6	4	28.28	45.25	18.1	**6.94**	13.06	4
037.53	Zinc/ICP-MS, Microwave (ppm)	263.1	3	7.578	10.5	3.99	**6.89**	8.857	3
037.52	Zinc/ICP-MS, Open vessel (ppm)	265.5	3	5.727	7.935	2.99	**6.88**	9.823	3
037.44	Zinc/ICP, Dry ash (ppm)	242.5	3	20.79	28.81	11.9	**6.97**	17.9	3
037.32	Zinc/AAS, Open vessel (ppm)	280	1					16	1
038.43	Molybdenum/ICP, Microwave (ppm)	**1.483**	**6**	**0.2087**	**0.4089**	**27.6**	**15**	0.149	5
038.42	Molybdenum/ICP, Open vessel (ppm)	**1.712**	**6**	**0.0391**	**0.0766**	**4.47**	**14.7**	**0.265**	**6**
038.52	Molybdenum/ICP-MS, Open vessel (ppm)	1.412	4	0.124	0.1984	14	**15.1**	0.018	4
038.53	Molybdenum/ICP-MS, Microwave (ppm)	1.676	2		0.0582			0.08655	2

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
038.41	Molybdenum/ICP, Dry ash (ppm)	1.512	2		0.1452			0.03605	2
040.53	Barium/ICP-MS, Microwave (ppm)	31.9	1					0.2375	1
040.43	Barium/ICP, Microwave (ppm)	35.03	1					0.1	1
040.52	Barium/ICP-MS, Open vessel (ppm)	29.42	1					0.0391	1
041.53	Vanadium/ICP-MS, Microwave (ppm)	0.8545	1					0.0064	1
042.00	Chloride/Titrimetric (%)	**0.4981**	**10**	**0.0067**	**0.0169**	**3.38**	**4.43**	**0.0099**	**8**
042.99	Chloride/Miscellaneous (%)	0.5111	4	0.035	0.056	11	**4.41**	0.0198	4
101.99	Choline Chloride/Miscellaneous (ppm)	1325	1					30	1
102.02	Niacin/LC (ppm)	62.25	1					3.133	1
102.01	Niacin/Microbiological (ppm)	125.5	1					9	1
103.01	Pantothenic Acid/Microbiological (ppm)	44.05	1					0.9	1
104.03	Riboflavin/LC (ppm)	19.29	5	2.527	4.52	23.4	**10.2**	1.043	5
104.00	Riboflavin/Fluorometric (ppm)	20.95	1					0.5	1
105.00	Thiamine/LC (ppm)	23.33	4	4.39	7.025	30.1	**9.9**	2.156	4
105.01	Thiamine/Fluorometer (ppm)	30.76	1					1.78	1
106.02	Vitamin A/LC (KU/kg)	**7.707**	**8**	**0.898**	**2.032**	**26.4**		**1.346**	**8**
106.01	Vitamin A/UV (KU/kg)	10.95	1					0.7	1
106.00	Vitamin A/Color (KU/kg)	9.91	1					0.78	1
107.99	Vitamin B12/Miscellaneous (ppb)	26.2	1					0.4	1

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
107.00	Vitamin B12/Microbiological (ppb)	30.45	1					1.9	1
108.02	Vitamin D3/LC (KU/kg)	1.137	5	0.1985	0.3551	31.2		0.2792	5
108.99	Vitamin D3/Miscellaneous (KU/kg)	1.14	1					0.106	1
109.02	Vitamin E/LC (IU/kg)	**304.3**	**9**	**19.66**	**47.18**	**15.5**		**9.503**	**9**
109.99	Vitamin E/Miscellaneous (IU/kg)	321.5	1					13	1
111.00	Vitamin C, Phosphorylated/LC (ppm)	248.5	2		94.75			24	2
112.01	Pyridoxine/LC (ppm)	3.295	2		1.704			0.08	2
113.01	Folic Acid/Micro (ppm)	1.455	1					0.39	1
114.99	Biotin/Miscellaneous (ppm)	0.172	1					0.01	1
115.00	Non Protein N (NPN)/Urea + Am, Urease method (%)	0.9758	2		0.5788			0.0135	2
120.00	Alanine/Post-col Ninhydrin Der (%)	**0.6315**	**6**	**0.0069**	**0.0135**	**2.14**	**4.28**	0.0143	5
120.05	Alanine/Pre-col AQC Der (%)	**0.6356**	**6**	**0.014**	**0.0274**	**4.31**	**4.27**	0.0185	5
120.02	Alanine/Post-col OPA Der (%)	0.637	1					0.002	1
121.00	Arginine/Post-col Ninhydrin Der (%)	**0.6848**	**8**	**0.0069**	**0.0156**	**2.27**	**4.22**	**0.0119**	**6**
121.05	Arginine/Pre-col AQC Der (%)	**0.7085**	**6**	**0.0377**	**0.0739**	**10.4**	**4.2**	0.0226	5
121.02	Arginine/Post-col OPA Der (%)	0.654	1					0.004	1
122.00	Aspartic/Post-col Ninhydrin Der (%)	**1.281**	**8**	**0.0083**	**0.0188**	**1.47**	**3.84**	**0.0279**	**8**
122.05	Aspartic/Pre-col AQC Der (%)	**1.289**	**6**	**0.0301**	**0.059**	**4.57**	**3.84**	0.0475	5
122.02	Aspartic/Post-col OPA Der (%)	1.367	1					0.03	1

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
124.00	Cysteine/Cystine/PAO Post-col Ninhydri (%)	**0.2157**	**7**	**0.0065**	**0.0137**	**6.36**	**5.02**	0.021	4
124.05	Cysteine/Cystine/PAO Pre-col AQC Der (%)	**0.225**	**6**	**0.0227**	**0.0444**	**19.7**	**4.99**	0.0082	4
124.02	Cysteine/Cystine/PAO Post-col OPA Der (%)	0.2	2		0.0283			0.008	1
125.00	Glutamic/Post-col Ninhydrin Der (%)	**1.921**	**8**	**0.0141**	**0.0318**	**1.66**	**3.62**	**0.0512**	**7**
125.05	Glutamic/Pre-col AQC Der (%)	**1.955**	**6**	**0.064**	**0.1254**	**6.42**	**3.61**	0.0672	5
125.02	Glutamic/Post-col OPA Der (%)	1.958	1					0.025	1
126.00	Glycine/Post-col Ninhydrin Der (%)	**0.6671**	**8**	**0.007**	**0.0159**	**2.39**	**4.24**	**0.0133**	**8**
126.05	Glycine/Pre-col AQC Der (%)	**0.6864**	**6**	**0.0212**	**0.0415**	**6.05**	**4.22**	0.0268	5
126.02	Glycine/Post-col OPA Der (%)	0.698	1					0.008	1
127.00	Histidine/Post-col Ninhydrin Der (%)	**0.2865**	**8**	**0.0074**	**0.0168**	**5.86**	**4.81**	**0.0102**	**7**
127.05	Histidine/Pre-col AQC Der (%)	**0.2924**	**6**	**0.02**	**0.0393**	**13.4**	**4.8**	0.0128	5
127.02	Histidine/Post-col OPA Der (%)	0.284	1					0.004	1
128.00	Isoleucine/Post-col Ninhydrin Der (%)	**0.4635**	**8**	**0.0138**	**0.0312**	**6.74**	**4.48**	**0.0165**	**6**
128.05	Isoleucine/Pre-col AQC Der (%)	**0.4631**	**6**	**0.0211**	**0.0413**	**8.91**	**4.48**	0.0104	5
128.02	Isoleucine/Post-col OPA Der (%)	0.4685	1					0.001	1
129.00	Leucine/Post-col Ninhydrin Der (%)	**0.8667**	**8**	**0.0081**	**0.0184**	**2.12**	**4.08**	**0.0238**	**6**
129.05	Leucine/Pre-col AQC Der (%)	0.8548	5	0.0142	0.0254	2.97	**4.09**	0.0048	4
129.02	Leucine/Post-col OPA Der (%)	0.8495	1					0.005	1
130.00	L-Lysine/Post-col Ninhydrin Der (%)	**0.6387**	**9**	**0.0196**	**0.0471**	**7.38**	**4.27**	**0.0262**	**7**

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
130.05	L-Lysine/Pre-col AQC Der (%)	**0.6238**	**6**	**0.0246**	**0.0482**	**7.73**	**4.28**	0.0142	5
130.02	L-Lysine/Post-col OPA Der (%)	0.6725	1					0.009	1
131.00	Methionine/PAO Post-col Ninhydrin Der (%)	**0.1773**	**8**	**0.0044**	**0.01**	**5.63**	**5.17**	0.0103	5
131.05	Methionine/PAO Pre-col AQC Der (%)	**0.1932**	**6**	**0.0179**	**0.0351**	**18.1**	**5.11**	0.0075	4
131.02	Methionine/PAO Post-col OPA Der (%)	0.1754	2		0.0065			0.0055	1
132.00	Phenylalanine/Post-col Ninhydrin Der (%)	**0.5742**	**8**	**0.0113**	**0.0255**	**4.44**	**4.34**	**0.0238**	**6**
132.05	Phenylalanine/Pre-col AQC Der (%)	**0.5446**	**6**	**0.0209**	**0.041**	**7.52**	**4.37**	0.0161	5
132.02	Phenylalanine/Post-col OPA Der (%)	0.543	1					0.004	1
133.00	Proline/Post-col Ninhydrin Der (%)	**0.7548**	**8**	**0.0213**	**0.0481**	**6.37**	**4.16**	**0.0288**	**6**
133.05	Proline/Pre-col AQC Der (%)	**0.802**	**6**	**0.0478**	**0.0937**	**11.7**	**4.12**	0.0279	5
134.00	Serine/Post-col Ninhydrin Der (%)	**0.6118**	**8**	**0.0072**	**0.0164**	**2.68**	**4.3**	**0.0127**	**8**
134.05	Serine/Pre-col AQC Der (%)	**0.607**	**6**	**0.0081**	**0.0159**	**2.61**	**4.3**	0.0192	5
134.02	Serine/Post-col OPA Der (%)	0.534	1					0.012	1
135.00	Threonine/Post-col Ninhydrin Der (%)	**0.4744**	**9**	**0.0092**	**0.022**	**4.64**	**4.46**	**0.0141**	**7**
135.05	Threonine/Pre-col AQC Der (%)	**0.4852**	**6**	**0.0137**	**0.0268**	**5.53**	**4.45**	0.0111	4
135.99	Threonine/Miscellaneous (%)	0.43	1					0.04	1
135.02	Threonine/Post-col OPA Der (%)	0.454	1					0.004	1
136.03	Tryptophan/Alka-Hydrol + IS RP LC Fl (%)	0.1916	4	0.0103	0.0165	8.63	**5.11**		
136.05	Tryptophan/Pre-col AQC Der (%)	0.1732	3	0.0161	0.0223	12.9	**5.19**	0.019	3

Code	Analyte / Method	[1] Trueness (Lab Value) Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD	[2] Thompson Horwitz %RSD	[3] Precision (range) Robust Mean	n used
136.99	Tryptophan/Miscellaneous (%)	0.151	2		0.0509			0.013	2
136.02	Tryptophan/Alka-Hydrol Post-col OPA De (%)	0.1628	1					0.0008	1
136.00	Tryptophan/Alka-Hydrol Post-col Ninhyd (%)	0.145	1					0.01	1
136.01	Tryptophan/Alka-Hydrol Rev Phase LC UV (%)	0.21	1						
137.00	Tyrosine/Post-col Ninhydrin Der (w/o oxidation) (%)	**0.3803**	**8**	**0.0177**	**0.04**	**10.5**	**4.61**	**0.0205**	**6**
137.05	Tyrosine/Pre-col AQC Der (%)	0.387	5	0.0177	0.0317	8.2	**4.6**	0.0144	4
137.02	Tyrosine/Post-col OPA Der (%)	0.3525	1					0.005	1
138.00	Valine/Post-col Ninhydrin Der (%)	**0.6158**	**8**	**0.0241**	**0.0545**	**8.85**	**4.29**	**0.0101**	**7**
138.05	Valine/Pre-col AQC Der (%)	**0.5997**	**6**	**0.0263**	**0.0515**	**8.58**	**4.31**	0.0244	5
138.99	Valine/Miscellaneous (%)	0.51	1						
138.02	Valine/Post-col OPA Der (%)	0.661	1					0.002	1
139.00	Taurine/Post-col Ninhydrin Der (%)	0.14	1					0.02	1
139.05	Taurine/Pre-col AQC Der (%)	0.001	1						
160.10	Fructose/HPAEC PAD (%)	0.4075	2		0.0884			0.025	2
160.99	Fructose/Miscellaneous (%)	0.46	1					0.08	1
161.10	Galactose/HPAEC PAD (%)	0.015	1					0.01	1
162.10	Glucose/HPAEC PAD (%)	0.235	2		0.0354			0.02	1
162.99	Glucose/Miscellaneous (%)	0.365	1					0.05	1
164.10	Maltose/HPAEC PAD (%)	0.24	2		0.0636			0.01	2

Code	Analyte / Method	[1] Trueness (Lab Value) Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD	[2] Thompson Horwitz %RSD	[3] Precision (range) Robust Mean	n used
165.10	Sucrose/HPAEC PAD (%)	3.288	2		0.0106			0.055	2
165.99	Sucrose/Miscellaneous (%)	3.07	1					0.48	1
166.10	Raffinose/HPAEC PAD (%)	0.2925	2		0.0247			0.01	1
166.99	Raffinose/Miscellaneous (%)	0.305	1					0.01	1
167.10	Stachyose/HPAEC PAD (%)	0.41	2		0.1061			0.02	2
167.99	Stachyose/Miscellaneous (%)	0.79	1					0.06	1
400.01	Water Activity/Aqualab chilled mirror (Units)	**0.5582**	**6**	**0.0046**	**0.0091**	**1.63**	**1.34**	**0.005**	**6**
516.52	Arsenic, Total/ICP-MS, Open vessel (ppm)	0.1419	3	0.0094	0.013	9.14	**21.3**	0.0125	3
516.53	Arsenic, Total/ICP-MS, Microwave (ppm)	0.1565	2		0.0042			0.0093	2
516.00	Arsenic, Total/AA, Hydride (ppm)	0.155	1					0.012	1
518.52	Cadmium/ICP-MS, Open vessel (ppm)	0.1345	3	0.0003	0.0005	0.35	**21.5**	0.0081	3
518.53	Cadmium/ICP-MS, Microwave (ppm)	0.1426	3	0.0022	0.0031	2.15	**21.3**		
518.43	Cadmium/ICP, Microwave (ppm)	0.1631	2		0.0664			0.01325	2
518.42	Cadmium/ICP, Open vessel (ppm)	7.1	1					0.2	1
518.41	Cadmium/ICP, Dry ash (ppm)	0.0786	1					0.0116	1
520.43	Chromium/ICP, Microwave (ppm)	**10.66**	**7**	**1.354**	**2.866**	**26.9**	**11.1**	**0.5161**	**7**
520.42	Chromium/ICP, Open vessel (ppm)	6.509	4	2.743	4.389	67.4	**12**	0.5881	4
520.52	Chromium/ICP-MS, Open vessel (ppm)	5.772	3	2.248	3.114	54	**12.2**	0.354	3
520.53	Chromium/ICP-MS, Microwave (ppm)	11.36	2		2.108			0.45105	2

		[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
Code	Analyte / Method	Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
520.41	Chromium/ICP, Dry ash (ppm)	7.18	1					0.2425	1
520.51	Chromium/ICP-MS, Dry ash (ppm)	1.16	1					0.02	1
526.53	Lead/ICP-MS, Microwave (ppm)	0.8442	3	0.0317	0.044	5.21	**16.3**	0.033	3
526.52	Lead/ICP-MS, Open vessel (ppm)	0.8176	3	0.0337	0.0467	5.71	**16.4**	0.0357	3
526.41	Lead/ICP, Dry ash (ppm)	0.6106	1					0.0723	1
526.43	Lead/ICP, Microwave (ppm)	0.9614	1					0.2233	1
529.99	Mercury/Miscellaneous (ppb)	300.7	2		423.3			########	2
539.43	Nickel/ICP, Microwave (ppm)	9.953	4	4.98	7.969	80.1	**11.2**	0.5329	4
539.52	Nickel/ICP-MS, Open vessel (ppm)	4.448	2		1.156			0.25845	2
539.41	Nickel/ICP, Dry ash (ppm)	4.396	1					0.5781	1
539.51	Nickel/ICP-MS, Dry ash (ppm)	1.57	1					0.04	1
539.53	Nickel/ICP-MS, Microwave (ppm)	5.174	1					0.2298	1
710.99	Lauric Acid (12:0)/Miscellaneous (% w/w)	0.003	1						
714.99	Myristic Acid (14:0)/Miscellaneous (% w/w)	0.0138	2		0.0004			0.00065	2
714.02	Myristic Acid (14:0)/Direct Methylation by Acid-Alkali Hydrolysis & G	0.0175	1					0.001	1
716.99	Palmitic Acid (16:0)/Miscellaneous (% w/w)	0.8536	2		0.0143			0.03945	2
716.02	Palmitic Acid (16:0)/Direct Methylation by Acid-Alkali Hydrolysis & G	1.01	1					0.016	1
718.99	Palmitoleic Acid (9c-16:1)/Miscellaneous (% w/w)	0.0127	2		0.0053			0.0019	1
720.99	Margaric acid (17:0)/Miscellaneous (% w/w)	0.0085	1					0.001	1

Code	Analyte / Method	[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
		Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
722.99	Stearic Acid (18:0)/Miscellaneous (% w/w)	0.1818	2		0.0032			0.00645	2
722.02	Stearic Acid (18:0)/Direct Methylation by Acid-Alkali Hydrolysis & GC	0.232	1					0.012	1
724.99	Oleic Acid (9c-18:1)/Miscellaneous (% w/w)	1.055	2		0.0226			0.0358	2
724.02	Oleic Acid (9c-18:1)/Direct Methylation by Acid-Alkali Hydrolysis & G	1.222	1					0.002	1
726.99	Linoleic Acid (9c,12c-18:2)/Miscellaneous (% w/w)	2.16	2		0.0166			0.0785	2
726.02	Linoleic Acid (9c,12c-18:2)/Direct Methylation by Acid-Alkali Hydrolys	2.418	1					0.032	1
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3)/Miscellaneous (% w/w)	0.3509	2		0.0055			0.01235	2
728.02	alpha-Linolenic Acid (9c,12c,15c-18:3)/Direct Methylation by Acid-Alk	0.3975	1					0.001	1
730.99	Arachidic Acid (20:0)/Miscellaneous (% w/w)	0.0207	2		0.0017			0.00085	2
732.99	Gondoic Acid (11c-20:1)/Miscellaneous (% w/w)	0.0128	2		0.0011			0.0004	1
742.99	Behenic Acid (22:0)/Miscellaneous (% w/w)	0.0217	2		0.0024			0.0025	1
744.99	Erucic Acid (13c-22:1)/Miscellaneous (% w/w)	0.002	1						
748.99	Lignoceric Acid (24:0)/Miscellaneous (% w/w)	0.0211	2		0.0065			0.0026	2
752.99	Nervonic Acid (24:1) isomers/Miscellaneous (% w/w)	0.004	1					0.004	1
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids/Miscellaneous (%	0.3475	1					0.013	1
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids/Miscellaneous (%	2.156	1					0.073	1
758.02	Total Saturated Fatty Acids/Direct Methylation by Acid-Alkali Hydroly	1.264	1					0.019	1
758.99	Total Saturated Fatty Acids/Miscellaneous (% w/w)	1.11	1					0.067	1
762.02	Total Monounsaturated Fatty Acids/Direct Methylation by Acid-Alkali	1.222	1					0.0013	1

Code	Analyte / Method	[1] Trueness (Lab Value)					[2] Thompson Horwitz %RSD	[3] Precision (range)	
		Robust Mean	n used	Robust Uncert.	Robust StDev	Robust %RSD		Robust Mean	n used
764.99	Total cis Monounsaturated Fatty Acids/Miscellaneous (% w/w)	1.146	1					0.054	1
766.02	Total Polyunsaturated Fatty Acids/Direct Methylation by Acid-Alkali H	2.945	1					0.028	1
768.99	Total cis Polyunsaturated Fatty Acids/Miscellaneous (% w/w)	2.508	1					0.085	1
770.99	Total Fat (equivalent to NLEA)/Miscellaneous (% w/w)	5.002	1					0.21	1
772.99	Total Fatty Acids/Miscellaneous (% w/w)	4.772	2		0.0159			0.18105	2
772.02	Total Fatty Acids/Direct Methylation by Acid-Alkali Hydrolysis & GC (	5.43	1						

1. Trueness Parameters: Statistical parameters defining the distribution of lab values which are used to evaluate how close a Lab Value is to the mean. Parameters are shown for number of observations used (n used). Method All Labs PT report identifies data not used. Robust statistics was employed to determine mean and standard deviation (StDev) if number of observations used (n used) >=6 (blue background). Classical statistics was employed if number of observations used (n used) < 6 (no color background). %RSD is the relative standard deviation with respect to the mean (StDev/Mean x 100). Uncertainty (Uncert.) is a measure of where the true population mean lies.

2. Thompson-Horwitz %RSD: Expected relative standard deviation based on analysis of data by Thompson and Horwitz (Thompson, DOI: 10.1039/b000282h).

3. Precision Parameters: Lab's precision is estimated by the difference in 2 results reported by a lab (range). Mean of ranges are shown for number of observations used (n used). Method All Tests report identifies data not used. Robust statistics was employed to determine mean if number of observations used (n used) >=6 (green background). Classical statistics was employed if number of observations used (n used) < 6 (no color background).

Appendix

Content Description of METHOD Summary Statistics Report

The Method Summary Statistics Report provides trueness and precision parameters from determination of analytes by specific methods. Determination of summary statistics followed protocols in ISO 13528:2015(E) using Algorithm A robust analysis (Statistical methods for use in proficiency testing by interlaboratory comparison). Robust statistics was used to determine statistical parameters for sets with 6 or more observations. Classical statistics was used for sets with 3, 4, or 5 observations. Robust statistics has an advantage of removing undesired influence of outlying data on the mean and standard deviation without removing data from the statistical analysis.

For trueness, the mean and standard deviation are presented for the number of observations (n used). The uncertainty (Uncert.) is a measure of where the "real" value for the concentration lies above or below the mean with a 68% certainty (1.25*standard deviation / (n used)^0.5). As the number of observations (n used) increases, uncertainty decreases. The relative standard deviation (%RSD) is a percentage of the standard deviation divided by the mean (standard deviation / mean x 100). The Thompson-Horwitz %RSD is a standard benchmark on variability based on data analyzed by Thompson and Horwitz (Thompson, DOI: 10.1039/b000282h).

Precision in the data populations is estimated by the range of duplicate results reported. The robust or classical mean is presented along with the number of observations. Any duplicate results that are exactly the same are removed in the determination of the mean to remove undo influence of entries that may be from labs reporting one result twice.