Method

Summary Statistics

Statistical reports have been updated to a new organizational format.

Statistical analysis and number of reports remain the same. The types of reports are shown below.

Results from all labs…

…sorted by analyte (Analyte All Labs PT Report)

…sorted by method (Method All Labs PT Report)

Summary statistics…

…for each analyte (Analyte Summary Statistics)

…for each method (**Method Summary Statistics**)

Report cards evaluating individual lab performance…

…for an analyte regardless of method (Analyte Laboratory Report Card)

…for a specific method (Method Laboratory Report Card).

Detailed description on the content of the Method Summary Statistics is provided in the Appendix

METHOD Summary Statistics

202623 (Chick Starter medicated)

Issue Date: 4/30/2026

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 (%)	**11.1**	**34**	**0.0985**	**0.4594**	**4.14**	**2.78**	**0.1444**	**31**
001.99	Loss on Drying/Miscellaneous (%)	**10.79**	**12**	**0.1158**	**0.3209**	**2.97**	**2.79**	**0.0846**	**12**
001.00	Loss on Drying/Vac 95°C 5 hr (%)	10.97	4	0.5502	0.8804	8.03	**2.79**	0.0977	4
001.03	Loss on Drying/Low temp. methods (%)	11.6	1					0.2	1
002.06	Protein, Crude/Combustion Nitrogen Analyzer (%)	**18.73**	**91**	**0.0427**	**0.326**	**1.74**	**2.31**	**0.2588**	**85**
002.01	Protein, Crude/Auto Kjel-Foss (%)	**18.6**	**12**	**0.0998**	**0.2766**	**1.49**	**2.32**	**0.166**	**9**
002.05	Protein, Crude/Copper, Boric Acid (%)	**18.52**	**8**	**0.1291**	**0.2922**	**1.58**	**2.32**	**0.1994**	**8**
002.11	Protein, Crude/NIR (%)	17.22	3	1.699	2.354	13.7	**2.41**	0.0833	3
002.02	Protein, Crude/Semiauto Autoanalyzer (%)	18.76	2		0.2652			0.135	2
002.04	Protein, Crude/Copper Catalyst (%)	18.2	2		0.8415			0.7	2
002.99	Protein, Crude/Miscellaneous (%)	18.74	2		0.5515			0.07	2
002.08	Protein, Crude/Cu/Ti (%)	18.53	2		0.0681			0.11785	2
002.00	Protein, Crude/Crude (%)	17.33	1					0.24	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
003.14	Fat, Crude/Ankom (%)	**2.405**	**45**	**0.0424**	**0.2275**	**9.46**	**3.5**	**0.1152**	**43**
003.10	Fat, Crude/Randall, Pet Ether (%)	**2.388**	**24**	**0.0421**	**0.1652**	**6.92**	**3.5**	**0.0996**	**22**
003.06	Fat, Crude/Pet Ether (%)	**2.316**	**10**	**0.0827**	**0.2093**	**9.04**	**3.52**	**0.0936**	**9**
003.09	Fat, Crude/Randall, Diethyl Ether Ext (%)	**2.401**	**7**	**0.0351**	**0.0743**	**3.09**	**3.5**	**0.0906**	**7**
003.99	Fat, Crude/Miscellaneous (%)	2.171	4	0.2465	0.3944	18.2	**3.55**	0.1725	4
003.00	Fat, Crude/Diethyl Ether Ext., Direct (%)	2.542	4	0.1965	0.3144	12.4	**3.47**	0.115	4
003.13	Fat, Crude/Randall, Hexane Ext. (%)	2.404	3	0.1021	0.1415	5.89	**3.5**	0.2886	3
003.01	Fat, Crude/Diethyl Ether Ext (13th ed.), Indirect (%)	2.471	3	0.1127	0.1561	6.32	**3.48**	0.1514	3
003.12	Fat, Crude/Hexane Ext (%)	2.395	3	0.1528	0.2117	8.84	**3.5**	0.03	3
003.11	Fat, Crude/NIR (%)	2.622	2		0.9864			0.035	2
004.07	Fiber, Crude/ANKOM (%)	**3.628**	**68**	**0.0528**	**0.3481**	**9.59**	**3.29**	**0.1497**	**63**
004.06	Fiber, Crude/Fibertec (%)	**3.95**	**11**	**0.1248**	**0.3312**	**8.39**	**3.25**	**0.1395**	**11**
004.00	Fiber, Crude/Asbestos Free (%)	**3.669**	**8**	**0.1506**	**0.3407**	**9.29**	**3.28**	**0.0888**	**8**
004.99	Fiber, Crude/Miscellaneous (%)	3.748	3	0.4847	0.6716	17.9	**3.27**	0.1123	3
004.11	Fiber, Crude/NIR (%)	4.242	2		0.145			0.075	2
004.03	Fiber, Crude/Fritted Glass (%)	3.502	2		0.6128			0.3201	2
005.00	Ash/2h @ 600°C (%)	**5.679**	**80**	**0.037**	**0.265**	**4.67**	**3.08**	**0.1089**	**76**
005.05	Ash/3h @ 550°C (%)	**5.887**	**16**	**0.0672**	**0.215**	**3.65**	**3.06**	**0.0652**	**16**
005.99	Ash/Miscellaneous (%)	5.592	5	0.2557	0.4574	8.18	**3.08**	0.084	5

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
005.11	Ash/NIR (%)	8.067	3	1.253	1.736	21.5	**2.92**		
005.03	Ash/Microwave furnace (%)	5.626	3	0.1985	0.275	4.89	**3.08**	0.0513	3
006.99	Total Sugars/Miscellaneous (%)	4.179	5	0.7804	1.396	33.4	**3.22**	0.142	5
006.00	Total Sugars/As sucrose (%)	7.853	2		6.92			0.27015	2
006.01	Total Sugars/Mod. Fehling Soln (%)	5.225	1					0.15	1
008.08	Fiber, Acid Detergent/Filter Bag - ANKOM (%)	**5.389**	**37**	**0.1306**	**0.6356**	**11.8**	**3.1**	**0.1872**	**32**
008.02	Fiber, Acid Detergent/Crucible (%)	**5.813**	**7**	**0.3955**	**0.8371**	**14.4**	**3.06**	**0.1365**	**7**
008.99	Fiber, Acid Detergent/Miscellaneous (%)	6.475	1					0.37	1
009.09	Fiber, Neutral Detergent/Filter Bag - ANKOM (%)	**13.91**	**35**	**0.2228**	**1.054**	**7.58**	**2.68**	**0.2937**	**31**
009.07	Fiber, Neutral Detergent/AOAC -ENZ Pretreat (%)	**15.09**	**6**	**0.5004**	**0.9806**	**6.5**	**2.57**	0.3938	4
010.99	Moisture/Miscellaneous (18%)	**11.2**	**16**	**0.2108**	**0.6745**	**6.02**	**2.78**	**0.193**	**16**
010.11	Moisture/NIR (18%)	11.26	2		0.4773			0.125	2
010.03	Moisture/Karl-Fischer (18%)	11.42	1					0.44	1
011.01	Loss on Drying/135°C 2hr (%)	**12.04**	**50**	**0.066**	**0.3732**	**3.1**	**2.75**	**0.1049**	**47**
011.02	Loss on Drying/130°C for 2 hours (%)	11.9	2		0.0212			0.07	2
011.99	Loss on Drying/High Temp. Methods Miscellaneous (%)	10.85	1					0.4	1
012.04	Starch/Enzymatic-Enzyme Membrane Technology (YSI) (%)	**36.68**	**8**	**0.7597**	**1.719**	**4.69**	**1.65**	**0.7012**	**8**
012.01	Starch/Enzymatic-Colorimetric Method (Megazyme) (%)	**36.17**	**7**	**1.683**	**3.563**	**9.85**	**1.66**	**0.9105**	**7**
012.00	Starch/Polarimetric (Ewers) (%)	**38.73**	**6**	**0.271**	**0.5311**	**1.37**	**1.61**	0.1167	3

		[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
012.11	Starch/NIR (%)	36.81	2		1.008			0.255	2
012.99	Starch/Miscellaneous (%)	32.14	2		4.922			0.39525	2
012.03	Starch/Enzymatic-Colorimetric Method, Miscellaneous (%)	37.59	2		1.804			0.6043	2
012.20	Starch/Dietary, Enzymatic-Colorimetric (%)	34.96	1					0.52	1
013.00	Fat, Pretreat/Acid hydrolysis (%)	**3.217**	**14**	**0.1274**	**0.3812**	**11.9**	**3.35**	**0.132**	**13**
013.02	Fat, Pretreat/Mojonnier, Bak Ext (%)	**3.736**	**11**	**0.2381**	**0.6316**	**16.9**	**3.27**	**0.265**	**11**
013.13	Fat, Pretreat/Ankom- Acid Hydrolysis (%)	**2.776**	**8**	**0.1467**	**0.3318**	**12**	**3.42**	**0.116**	**8**
013.10	Fat, Pretreat/Soxtec-Acid Hydrolysis (%)	2.819	5	0.3035	0.5429	19.3	**3.42**	0.3967	3
013.08	Fat, Pretreat/Roese-Gottlieb Modified (%)	1.485	1					0.05	1
014.02	Fiber, Total Dietary/ANKOM Enz-Grav (%)	17.25	1					0.3	1
015.43	Aluminum/ICP, Microwave (ppm)	**84.26**	**6**	**7.686**	**15.06**	**17.9**	**8.17**	**1.293**	**6**
015.41	Aluminum/ICP, Dry ash (ppm)	73.71	3	7.952	11.02	14.9	**8.33**	3.414	3
015.42	Aluminum/ICP, Open vessel (ppm)	34.78	2		10.3			1.51	2
015.53	Aluminum/ICP-MS, Microwave (ppm)	83.14	2		0.2739			7.51995	2
015.99	Aluminum/Miscellaneous (ppm)	46.75	1					0.7	1
017.43	Boron/ICP, Microwave (ppm)	**8.21**	**6**	**0.4962**	**0.9724**	**11.8**	**11.6**	0.1431	4
017.42	Boron/ICP, Open vessel (ppm)	9.159	4	1.383	2.213	24.2	**11.4**	0.729	4
017.41	Boron/ICP, Dry ash (ppm)	8.48	4	0.3309	0.5294	6.24	**11.5**	0.5662	4
017.53	Boron/ICP-MS, Microwave (ppm)	9.15	1					1.3134	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
017.99	Boron/Miscellaneous (ppm)	8.69	1					0.02	1
019.43	Calcium/ICP, Microwave (%)	**1.005**	**34**	**0.0114**	**0.0531**	**5.28**	**3.99**	**0.0376**	**32**
019.42	Calcium/ICP, Open vessel (%)	**0.9933**	**18**	**0.0157**	**0.0534**	**5.37**	**3.99**	**0.0304**	**16**
019.41	Calcium/ICP, Dry ash (%)	**0.979**	**17**	**0.0114**	**0.0375**	**3.83**	**4**	**0.0384**	**17**
019.31	Calcium/AAS, Dry ash (%)	**1.045**	**12**	**0.0319**	**0.0884**	**8.46**	**3.96**	**0.0175**	**10**
019.99	Calcium/Miscellaneous (%)	**0.8702**	**6**	**0.0773**	**0.1514**	**17.4**	**4.07**	**0.0416**	**6**
019.08	Calcium/EDTA (%)	**1.068**	**6**	**0.0192**	**0.0376**	**3.52**	**3.95**	0.0267	3
019.00	Calcium/Ox-Mn04 Vol. (%)	1.005	5	0.1121	0.2006	20	**3.99**	0.0182	5
019.52	Calcium/ICP-MS, Open vessel (%)	0.9964	3	0.1123	0.1557	15.6	**3.99**	0.0731	3
019.53	Calcium/ICP-MS, Microwave (%)	1.078	2		0.1374			0.2182	2
019.44	Calcium/ICP, Dry ash (%)	0.9488	2		0.0477			0.0315	2
019.09	Calcium/Ion-selective electrode (%)	0.9595	1					0.021	1
019.32	Calcium/AAS, Open vessel (%)	1.015	1					0.05	1
021.43	Cobalt/ICP, Microwave (ppm)	**0.5657**	**6**	**0.1253**	**0.2456**	**43.4**	**17.3**	0.0766	5
021.53	Cobalt/ICP-MS, Microwave (ppm)	0.5331	5	0.0188	0.0336	6.31	**17.5**	0.0347	5
021.42	Cobalt/ICP, Open vessel (ppm)	0.3765	2		0.1252			0.068	2
021.52	Cobalt/ICP-MS, Open vessel (ppm)	0.4856	1					0.0253	1
021.31	Cobalt/AAS, Dry ash (ppm)	0.4855	1					0.002	1
021.41	Cobalt/ICP, Dry ash (ppm)	0.8046	1					0.0118	1

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
022.43	Copper/ICP, Microwave (ppm)	**9.883**	**29**	**0.2201**	**0.9481**	**9.59**	**11.3**	**0.6551**	**27**
022.42	Copper/ICP, Open vessel (ppm)	**10.1**	**16**	**0.2948**	**0.9435**	**9.34**	**11.2**	**0.3187**	**15**
022.41	Copper/ICP, Dry ash (ppm)	**10.45**	**10**	**0.4967**	**1.257**	**12**	**11.2**	**0.5716**	**10**
022.31	Copper/AAS, Dry ash (ppm)	10.56	4	0.8404	1.345	12.7	**11.2**	0.057	3
022.44	Copper/ICP, Dry ash (ppm)	9.357	3	0.8455	1.172	12.5	**11.4**	0.38	3
022.99	Copper/Miscellaneous (ppm)	11.43	3	2.356	3.265	28.6	**11**		
022.52	Copper/ICP-MS, Open vessel (ppm)	10.41	2		0.5904			0.235	2
022.53	Copper/ICP-MS, Microwave (ppm)	9.799	2		0.6453			1.55425	2
022.32	Copper/AAS, Open vessel (ppm)	11.9	1					1.2	1
024.99	Iodine/Miscellaneous (ppm)	0.6085	1					0.033	1
025.43	Iron/ICP, Microwave (ppm)	**136.1**	**28**	**2.155**	**9.124**	**6.7**	**7.6**	**3.967**	**27**
025.42	Iron/ICP, Open vessel (ppm)	**126.2**	**16**	**3.178**	**10.17**	**8.06**	**7.69**	**5.117**	**14**
025.41	Iron/ICP, Dry ash (ppm)	**127.8**	**14**	**3.203**	**9.586**	**7.5**	**7.67**	**2.861**	**14**
025.31	Iron/AAS, Dry ash (ppm)	**142.3**	**7**	**5.359**	**11.34**	**7.97**	**7.55**	**5.963**	**6**
025.99	Iron/Miscellaneous (ppm)	124.9	4	12.7	20.32	16.3	**7.7**	4.527	3
025.52	Iron/ICP-MS, Open vessel (ppm)	116.1	2		3.507			8.57	2
025.53	Iron/ICP-MS, Microwave (ppm)	124.9	2		9.347			########	2
027.43	Magnesium/ICP, Microwave (%)	**0.2123**	**30**	**0.0026**	**0.0112**	**5.27**	**5.03**	**0.0061**	**23**
027.42	Magnesium/ICP, Open vessel (%)	**0.2142**	**18**	**0.0035**	**0.012**	**5.62**	**5.03**	**0.0054**	**12**

		[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
027.41	Magnesium/ICP, Dry ash (%)	**0.2068**	**13**	**0.0032**	**0.0092**	**4.46**	**5.05**	**0.0049**	**11**
027.31	Magnesium/AAS, Dry ash (%)	**0.2125**	**7**	**0.0064**	**0.0135**	**6.36**	**5.03**	0.0052	5
027.99	Magnesium/Miscellaneous (%)	0.2567	5	0.0512	0.0916	35.7	**4.89**	0.0152	4
027.52	Magnesium/ICP-MS, Open vessel (%)	0.2237	3	0.0138	0.0191	8.54	**5**	0.0126	3
027.44	Magnesium/ICP, Dry ash (%)	0.2028	2		0.011			0.0105	2
027.53	Magnesium/ICP-MS, Microwave (%)	0.2106	2		0.0008			0.02	2
027.32	Magnesium/AAS, Open vessel (%)	0.215	1					0.01	1
028.43	Manganese/ICP, Microwave (ppm)	**87.81**	**29**	**1.175**	**5.06**	**5.76**	**8.12**	**3.645**	**27**
028.42	Manganese/ICP, Open vessel (ppm)	**86.48**	**18**	**1.927**	**6.54**	**7.56**	**8.14**	**4.821**	**18**
028.41	Manganese/ICP, Dry ash (ppm)	**82.33**	**10**	**1.494**	**3.781**	**4.59**	**8.2**	**2.298**	**10**
028.31	Manganese/AAS, Dry ash (ppm)	**86.4**	**8**	**2.035**	**4.605**	**5.33**	**8.14**	**1.852**	**7**
028.99	Manganese/Miscellaneous (ppm)	88	4	4.059	6.494	7.38	**8.12**	3.19	4
028.44	Manganese/ICP, Dry ash (ppm)	80.6	3	6.809	9.435	11.7	**8.22**	0.2433	3
028.53	Manganese/ICP-MS, Microwave (ppm)	81.46	3	7.289	10.1	12.4	**8.21**	6.152	3
028.52	Manganese/ICP-MS, Open vessel (ppm)	84.32	2		1.75			6.805	2
028.32	Manganese/AAS, Open vessel (ppm)	92.95	1					1.3	1
031.43	Phosphorus/ICP, Microwave (%)	**0.6406**	**33**	**0.0052**	**0.024**	**3.75**	**4.27**	**0.0182**	**30**
031.42	Phosphorus/ICP, Open vessel (%)	**0.6305**	**19**	**0.0106**	**0.037**	**5.87**	**4.28**	**0.018**	**16**
031.01	Phosphorus/Photometric (%)	**0.6338**	**18**	**0.0077**	**0.0261**	**4.12**	**4.27**	**0.0104**	**10**

		[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
031.41	Phosphorus/ICP, Dry ash (%)	**0.6192**	**16**	**0.0067**	**0.0214**	**3.46**	**4.29**	**0.0187**	**15**
031.99	Phosphorus/Miscellaneous (%)	**0.6376**	**6**	**0.0224**	**0.044**	**6.9**	**4.27**	**0.0182**	**6**
031.44	Phosphorus/ICP, Dry ash (%)	0.6173	3	0.0183	0.0253	4.1	**4.29**		
031.52	Phosphorus/ICP-MS, Open vessel (%)	0.6511	3	0.0262	0.0363	5.57	**4.26**	0.0301	3
031.53	Phosphorus/ICP-MS, Microwave (%)	0.6268	2		0.0103			0.0464	2
031.03	Phosphorus/Autoanalyzer (%)	0.6388	2		0.0088			0.0305	2
031.02	Phosphorus/GQMP (AOAC 935.13-Extraction) (%)	0.6157	1					0.0488	1
032.43	Potassium/ICP, Microwave (%)	**0.9803**	**31**	**0.0109**	**0.0486**	**4.96**	**4**	**0.0215**	**30**
032.42	Potassium/ICP, Open vessel (%)	**0.9979**	**17**	**0.0183**	**0.0603**	**6.05**	**3.99**	**0.0227**	**16**
032.41	Potassium/ICP, Dry ash (%)	**0.9405**	**14**	**0.0165**	**0.0493**	**5.24**	**4.03**	**0.0291**	**14**
032.31	Potassium/AAS, Dry ash (%)	**0.9455**	**6**	**0.0339**	**0.0665**	**7.03**	**4.02**	0.0245	5
032.99	Potassium/Miscellaneous (%)	1.001	5	0.0505	0.0903	9.02	**3.99**	0.035	4
032.52	Potassium/ICP-MS, Open vessel (%)	0.9788	3	0.0826	0.1144	11.7	**4**	0.0522	3
032.44	Potassium/ICP, Dry ash (%)	0.946	2		0.0721			0.038	2
032.32	Potassium/AAS, Open vessel (%)	1.075	1					0.01	1
032.53	Potassium/ICP-MS, Microwave (%)	0.9754	1					0.1548	1
033.01	Salt as chloride/Poten Cl (%)	**0.4561**	**21**	**0.0046**	**0.0169**	**3.71**	**4.49**	**0.0166**	**15**
033.99	Salt/Miscellaneous (%)	**0.4468**	**13**	**0.013**	**0.0376**	**8.42**	**4.5**	**0.014**	**12**
033.00	Salt as chloride/Sol Cl (%)	**0.4743**	**13**	**0.014**	**0.0404**	**8.52**	**4.46**	**0.019**	**9**

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
033.03	Salt as chloride/Quantab (%)	0.44	4	0.0319	0.051	11.6	**4.51**		
033.05	Salt as chloride/Ion Sel Electrode (%)	0.3933	3	0.0235	0.0325	8.27	**4.59**		
034.53	Selenium/ICP-MS, Microwave (ppm)	**0.295**	**7**	**0.0225**	**0.0476**	**16.1**	**19.1**	**0.0425**	**7**
034.04	Selenium/AA, Hydride (ppm)	0.2643	3	0.0323	0.0448	17	**19.4**	0.0146	3
034.52	Selenium/ICP-MS, Open vessel (ppm)	0.3049	2		0.0211			0.01715	2
034.43	Selenium/ICP, Microwave (ppm)	0.279	2		0.0509			0.014	2
034.42	Selenium/ICP, Open vessel (ppm)	1.025	1					0.73	1
034.01	Selenium/Fluor (ppm)	0.28	1						
034.99	Selenium/Miscellaneous (ppm)	0.6255	1					0.001	1
035.43	Sodium/ICP, Microwave (%)	**0.1648**	**29**	**0.0023**	**0.0098**	**5.92**	**5.23**	**0.0063**	**24**
035.41	Sodium/ICP, Dry ash (%)	**0.1707**	**18**	**0.0036**	**0.0122**	**7.15**	**5.2**	**0.0081**	**15**
035.42	Sodium/ICP, Open vessel (%)	**0.1662**	**16**	**0.0033**	**0.0106**	**6.37**	**5.22**	**0.004**	**10**
035.31	Sodium/AAS, Dry ash (%)	0.183	5	0.008	0.0143	7.81	**5.15**	0.0049	3
035.99	Sodium/Miscellaneous (%)	0.4027	5	0.1969	0.3523	87.5	**4.57**	0.0222	4
035.52	Sodium/ICP-MS, Open vessel (%)	0.1649	3	0.0127	0.0177	10.7	**5.23**	0.0078	3
035.53	Sodium/ICP-MS, Microwave (%)	0.1696	2		0.0079			0.00755	2
035.32	Sodium/AAS, Open vessel (%)	0.19	1					0.04	1
035.05	Sodium/Flame Emission (%)	0.155	1					0.01	1
036.43	Sulfur/ICP, Microwave (%)	**0.2481**	**26**	**0.0038**	**0.0154**	**6.22**	**4.92**	**0.0066**	**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 (%)	**0.2398**	**18**	**0.0052**	**0.0177**	**7.4**	**4.94**	**0.0088**	**12**
036.04	Sulfur/LECO (%)	0.2405	4	0.0117	0.0187	7.79	**4.94**		
036.52	Sulfur/ICP-MS, Open vessel (%)	0.2852	2		0.057			0.05605	2
036.99	Sulfur/Miscellaneous (%)	0.2175	2		0.0177			0.01	1
036.00	Sulfur/Gravimetric (%)	0.2385	1					0.033	1
036.53	Sulfur/ICP-MS, Microwave (%)	0.1745	1					0.005	1
037.43	Zinc/ICP, Microwave (ppm)	**83.08**	**32**	**1.753**	**7.933**	**9.55**	**8.19**	**3.289**	**31**
037.42	Zinc/ICP, Open vessel (ppm)	**81.26**	**17**	**2.89**	**9.534**	**11.7**	**8.21**	**4.295**	**17**
037.41	Zinc/ICP, Dry ash (ppm)	**82.37**	**12**	**2.905**	**8.05**	**9.77**	**8.2**	**3.74**	**12**
037.31	Zinc/AAS, Dry ash (ppm)	83.73	5	3.278	5.863	7	**8.18**	1.265	3
037.99	Zinc/Miscellaneous (ppm)	78.15	4	3.971	6.353	8.13	**8.26**	3.388	4
037.44	Zinc/ICP, Dry ash (ppm)	72.92	3	5.145	7.129	9.78	**8.35**	2.647	3
037.53	Zinc/ICP-MS, Microwave (ppm)	84.26	3	5.4	7.482	8.88	**8.17**	5.906	3
037.52	Zinc/ICP-MS, Open vessel (ppm)	84.72	2		1.011			6.12	2
037.32	Zinc/AAS, Open vessel (ppm)	87.8	1					2	1
038.43	Molybdenum/ICP, Microwave (ppm)	**0.7923**	**7**	**0.1583**	**0.3351**	**42.3**	**16.4**	**0.0997**	**7**
038.42	Molybdenum/ICP, Open vessel (ppm)	**1.001**	**6**	**0.1024**	**0.2007**	**20**	**15.9**	**0.2203**	**6**
038.53	Molybdenum/ICP-MS, Microwave (ppm)	**1.022**	**6**	**0.0648**	**0.127**	**12.4**	**15.8**	0.0625	5
038.41	Molybdenum/ICP, Dry ash (ppm)	1.004	2		0.1922			0.03395	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
038.52	Molybdenum/ICP-MS, Open vessel (ppm)	0.9658	2		0.0223			0.0685	2
038.99	Molybdenum/Miscellaneous (ppm)	1.4	1						
040.53	Barium/ICP-MS, Microwave (46ppm)	5.833	2		0.0176			0.42895	2
040.43	Barium/ICP, Microwave (46ppm)	6.97	1					0.06	1
041.53	Vanadium/ICP-MS, Microwave (46ppm)	0.4734	1					0.0413	1
042.00	Chloride/Titrimetric (%)	**0.2841**	**7**	**0.0096**	**0.0204**	**7.17**	**4.82**	0.0111	5
042.99	Chloride/Miscellaneous (%)	0.304	4	0.0079	0.0127	4.17	**4.77**	0.0053	3
101.99	Choline Chloride/Miscellaneous (ppm)	1715	1					50	1
102.01	Niacin/Microbiological (ppm)	85.2	1					2.2	1
103.01	Pantothenic Acid/Microbiological (ppm)	11.05	1					1.7	1
104.00	Riboflavin/Fluorometric (ppm)	8.28	1					0.26	1
105.01	Thiamine/Fluorometer (ppm)	5.24	1					0.24	1
106.02	Vitamin A/LC (KU/kg)	**5.544**	**6**	**0.6246**	**1.224**	**22.1**		**0.9964**	**6**
106.00	Vitamin A/Color (KU/kg)	6.22	1					0.36	1
106.03	Vitamin A/ANKOM-LC (KU/kg)	9.27	1					5.92	1
106.99	Vitamin A/Miscellaneous (KU/kg)	4.34	1					0.4	1
106.01	Vitamin A/UV (KU/kg)	3.78	1					1.78	1
107.00	Vitamin B12/Microbiological (ppb)	48.65	1					0.9	1
107.99	Vitamin B12/Miscellaneous (ppb)	35.65	1					2.7	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
108.02	Vitamin D3/LC (KU/kg)	1.755	3	0.4776	0.6618	37.7			
108.99	Vitamin D3/Miscellaneous (KU/kg)	1.936	1					0.498	1
109.02	Vitamin E/LC (IU/kg)	**50.63**	**6**	**5.12**	**10.03**	**19.8**		**3.215**	**6**
109.99	Vitamin E/Miscellaneous (IU/kg)	49.5	2		14.14			4	2
109.03	Vitamin E/ANKOM-LC (IU/kg)	52.3	1					3.6	1
112.01	Pyridoxine/LC (ppm)	137.5	1					1	1
113.01	Folic Acid/Micro (ppm)	0.9025	1					0.057	1
114.99	Biotin/Miscellaneous (ppm)	0.1845	1					0.033	1
115.00	Non Protein N (NPN)/Urea + Am, Urease method (%)	0.088	1					0.144	1
120.00	Alanine/Post-col Ninhydrin Der (%)	**0.9729**	**7**	**0.0109**	**0.023**	**2.37**	**4.01**	**0.0113**	**7**
120.05	Alanine/Pre-col AQC Der (%)	**0.9543**	**6**	**0.0237**	**0.0465**	**4.87**	**4.02**	0.011	5
120.99	Alanine/Miscellaneous (%)	0.9125	2		0.0035			0.05	1
120.02	Alanine/Post-col OPA Der (%)	0.96	1					0.004	1
121.00	Arginine/Post-col Ninhydrin Der (%)	**1.038**	**7**	**0.0142**	**0.03**	**2.89**	**3.97**	**0.017**	**6**
121.05	Arginine/Pre-col AQC Der (%)	**1.056**	**7**	**0.0369**	**0.0781**	**7.4**	**3.96**	0.0531	5
121.99	Arginine/Miscellaneous (%)	0.985	2		0.0424			0.06	2
121.02	Arginine/Post-col OPA Der (%)	1.004	1					0.025	1
122.05	Aspartic/Pre-col AQC Der (%)	**1.632**	**7**	**0.0875**	**0.1852**	**11.3**	**3.71**	0.0604	5
122.00	Aspartic/Post-col Ninhydrin Der (%)	**1.604**	**7**	**0.0189**	**0.0399**	**2.49**	**3.72**	**0.0182**	**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
122.99	Aspartic/Miscellaneous (%)	1.645	2		0.2616			0.04	1
122.02	Aspartic/Post-col OPA Der (%)	1.71	1					0.023	1
124.05	Cysteine/Cystine/PAO Pre-col AQC Der (%)	**0.2808**	**7**	**0.0163**	**0.0346**	**12.3**	**4.83**	**0.0095**	**6**
124.00	Cysteine/Cystine/PAO Post-col Ninhydri (%)	**0.3128**	**6**	**0.0082**	**0.016**	**5.12**	**4.75**	0.0076	3
124.02	Cysteine/Cystine/PAO Post-col OPA Der (%)	0.309	2		0.041			0.028	2
124.99	Cysteine/Cystine/Miscellaneous (%)	0.29	1						
125.00	Glutamic/Post-col Ninhydrin Der (%)	**3.243**	**7**	**0.0325**	**0.0687**	**2.12**	**3.34**	**0.0217**	**6**
125.05	Glutamic/Pre-col AQC Der (%)	**3.152**	**7**	**0.0809**	**0.1713**	**5.43**	**3.36**	**0.0578**	**6**
125.99	Glutamic/Miscellaneous (%)	3.185	2		0.0354			0.12	2
125.02	Glutamic/Post-col OPA Der (%)	3.404	1					0.025	1
126.00	Glycine/Post-col Ninhydrin Der (%)	**0.7753**	**7**	**0.0117**	**0.0247**	**3.18**	**4.15**	0.0152	5
126.05	Glycine/Pre-col AQC Der (%)	**0.8106**	**7**	**0.0379**	**0.0801**	**9.88**	**4.12**	**0.0374**	**6**
126.99	Glycine/Miscellaneous (%)	0.685	2		0.0566			0.01	2
126.02	Glycine/Post-col OPA Der (%)	0.811	1					0.014	1
127.00	Histidine/Post-col Ninhydrin Der (%)	**0.4617**	**7**	**0.0131**	**0.0276**	**5.98**	**4.48**	0.0097	5
127.05	Histidine/Pre-col AQC Der (%)	**0.4544**	**7**	**0.0162**	**0.0343**	**7.55**	**4.49**	0.024	5
127.99	Histidine/Miscellaneous (%)	0.4675	2		0.0318			0.03	1
127.02	Histidine/Post-col OPA Der (%)	0.4625	1					0.003	1
128.00	Isoleucine/Post-col Ninhydrin Der (%)	**0.6958**	**7**	**0.0227**	**0.0481**	**6.92**	**4.21**	**0.0215**	**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
128.05	Isoleucine/Pre-col AQC Der (%)	**0.6926**	**7**	**0.0129**	**0.0273**	**3.94**	**4.22**	0.0333	5
128.99	Isoleucine/Miscellaneous (%)	0.66	2		0.0071			0.01	2
128.02	Isoleucine/Post-col OPA Der (%)	0.7015	1					0.009	1
129.05	Leucine/Pre-col AQC Der (%)	**1.525**	**7**	**0.0301**	**0.0637**	**4.18**	**3.75**	0.0419	5
129.00	Leucine/Post-col Ninhydrin Der (%)	**1.514**	**7**	**0.0253**	**0.0536**	**3.54**	**3.75**	**0.0204**	**6**
129.99	Leucine/Miscellaneous (%)	1.565	2		0.0919			0.04	1
129.02	Leucine/Post-col OPA Der (%)	1.478	1					0.001	1
130.00	L-Lysine/Post-col Ninhydrin Der (%)	**0.8375**	**10**	**0.0168**	**0.0426**	**5.08**	**4.1**	**0.0125**	**9**
130.05	L-Lysine/Pre-col AQC Der (%)	**0.8148**	**8**	**0.0321**	**0.0727**	**8.92**	**4.11**	**0.0407**	**6**
130.99	L-Lysine/Miscellaneous (%)	0.8625	2		0.053			0.03	1
130.02	L-Lysine/Post-col OPA Der (%)	0.8825	1					0.003	1
131.00	Methionine/PAO Post-col Ninhydrin Der (%)	**0.311**	**9**	**0.0043**	**0.0104**	**3.33**	**4.75**	**0.0106**	**8**
131.05	Methionine/PAO Pre-col AQC Der (%)	**0.2901**	**7**	**0.0104**	**0.022**	**7.58**	**4.8**	**0.0105**	**6**
131.02	Methionine/PAO Post-col OPA Der (%)	0.318	2		0.017			0.02	1
131.99	Methionine/Miscellaneous (%)	0.305	2		0.0424			0.02	2
132.00	Phenylalanine/Post-col Ninhydrin Der (%)	**0.834**	**7**	**0.0145**	**0.0306**	**3.67**	**4.1**	**0.017**	**7**
132.05	Phenylalanine/Pre-col AQC Der (%)	**0.8072**	**6**	**0.0152**	**0.0297**	**3.68**	**4.12**	0.0195	5
132.99	Phenylalanine/Miscellaneous (%)	0.79	2		0.0424			0.04	1
132.02	Phenylalanine/Post-col OPA Der (%)	0.822	1					0.004	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
133.00	Proline/Post-col Ninhydrin Der (%)	**1.15**	**7**	**0.0114**	**0.0241**	**2.1**	**3.91**	**0.0159**	**7**
133.05	Proline/Pre-col AQC Der (%)	**1.171**	**7**	**0.0226**	**0.0479**	**4.09**	**3.9**	0.0056	5
133.99	Proline/Miscellaneous (%)	1.13	2		0.0849			0.04	1
134.05	Serine/Pre-col AQC Der (%)	**0.8843**	**7**	**0.0302**	**0.064**	**7.23**	**4.06**	**0.0248**	**6**
134.00	Serine/Post-col Ninhydrin Der (%)	**0.8467**	**7**	**0.0132**	**0.028**	**3.3**	**4.09**	**0.0125**	**6**
134.99	Serine/Miscellaneous (%)	0.835	2		0.0141			0.02	2
134.02	Serine/Post-col OPA Der (%)	0.736	1					0.002	1
135.00	Threonine/Post-col Ninhydrin Der (%)	**0.6651**	**7**	**0.0101**	**0.0213**	**3.21**	**4.24**	**0.0102**	**6**
135.05	Threonine/Pre-col AQC Der (%)	**0.6806**	**7**	**0.023**	**0.0486**	**7.14**	**4.23**	0.0334	5
135.99	Threonine/Miscellaneous (%)	0.665	2		0.0141			0.02	2
135.02	Threonine/Post-col OPA Der (%)	0.6415	1					0.003	1
136.05	Tryptophan/Pre-col AQC Der (%)	0.1855	3	0.0274	0.038	20.5	**5.14**	0.0072	3
136.03	Tryptophan/Alka-Hydrol + IS RP LC Fl (%)	0.2216	3	0.0166	0.023	10.4	**5**		
136.99	Tryptophan/Miscellaneous (%)	0.3445	3	0.166	0.23	66.8	**4.68**		
136.01	Tryptophan/Alka-Hydrol Rev Phase LC UV (%)	0.2275	2		0.0035			0.01	1
136.02	Tryptophan/Alka-Hydrol Post-col OPA De (%)	0.1901	1					0.0002	1
137.05	Tyrosine/Pre-col AQC Der (%)	**0.5839**	**7**	**0.0334**	**0.0707**	**12.1**	**4.33**	0.0458	5
137.00	Tyrosine/Post-col Ninhydrin Der (w/o oxidation) (%)	**0.553**	**6**	**0.0431**	**0.0845**	**15.3**	**4.36**	**0.0092**	**6**
137.99	Tyrosine/Miscellaneous (%)	0.5075	2		0.0742			0.025	2

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
137.02	Tyrosine/Post-col OPA Der (%)	0.4635	1					0.037	1
138.00	Valine/Post-col Ninhydrin Der (%)	**0.8313**	**7**	**0.0259**	**0.0548**	**6.59**	**4.1**	**0.0199**	**7**
138.05	Valine/Pre-col AQC Der (%)	**0.8156**	**7**	**0.0159**	**0.0336**	**4.12**	**4.11**	0.0308	5
138.99	Valine/Miscellaneous (%)	0.7825	2		0.0035			0.015	2
138.02	Valine/Post-col OPA Der (%)	0.906	1					0.008	1
139.00	Taurine/Post-col Ninhydrin Der (%)	0.15	1						
139.05	Taurine/Pre-col AQC Der (%)	0.0285	1					0.001	1
160.10	Fructose/HPAEC PAD (%)	0.2425	2		0.0884			0.015	2
160.99	Fructose/Miscellaneous (%)	0.315	1					0.03	1
162.10	Glucose/HPAEC PAD (%)	0.2675	2		0.0672			0.03	1
162.99	Glucose/Miscellaneous (%)	0.305	1					0.05	1
163.10	Lactose/HPAEC PAD (%)	0.09	1						
164.10	Maltose/HPAEC PAD (%)	0.3225	2		0.1732			0.05	1
165.10	Sucrose/HPAEC PAD (%)	1.92	2		0.099			0.1	2
165.99	Sucrose/Miscellaneous (%)	2.065	1					0.05	1
166.10	Raffinose/HPAEC PAD (%)	0.4	2		0			0.04	2
166.99	Raffinose/Miscellaneous (%)	0.345	1					0.01	1
167.10	Stachyose/HPAEC PAD (%)	1.1	2		0.0283			0.04	2
167.99	Stachyose/Miscellaneous (%)	1.8	1					0.02	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
345.02	Amprolium/LC (UV or FL) (ppm)	**108.9**	**7**	**5.043**	**10.67**	**9.81**	**7.86**	**3.814**	**6**
345.00	Amprolium/Colorimetric (ppm)	127.7	4	11.94	19.1	15	**7.68**	1.867	3
400.01	Water Activity/Aqualab chilled mirror (Units)	**0.6407**	**6**	**0.007**	**0.0137**	**2.13**	**1.25**	**0.0036**	**6**
400.99	Water Activity/Miscellaneous (Units)	0.7	1						
516.53	Arsenic, Total/ICP-MS, Microwave (ppm)	0.0716	3	0.0307	0.0425	59.4	**22**	0.0018	3
516.00	Arsenic, Total/AA, Hydride (ppm)	0.0525	1					0.009	1
518.53	Cadmium/ICP-MS, Microwave (ppm)	0.0578	3	0.0082	0.0113	19.6	**22**	0.0043	3
518.43	Cadmium/ICP, Microwave (ppm)	0.1153	2		0.0208			0.04195	2
518.41	Cadmium/ICP, Dry ash (ppm)	0.061	1					0.0056	1
518.52	Cadmium/ICP-MS, Open vessel (ppm)	0.0545	1					0.0014	1
518.33	Cadmium/AAS, Microwave (ppm)	0.0542	1					0.0072	1
520.43	Chromium/ICP, Microwave (ppm)	2.288	5	0.1905	0.3408	14.9	**14**	0.036	4
520.53	Chromium/ICP-MS, Microwave (ppm)	2.194	3	0.4618	0.6399	29.2	**14.1**	0.2804	3
520.52	Chromium/ICP-MS, Open vessel (ppm)	1.715	2		0.3041			0.06	2
520.42	Chromium/ICP, Open vessel (ppm)	2.148	2		0.1308			0.225	2
520.41	Chromium/ICP, Dry ash (ppm)	1.716	1					0.3654	1
526.53	Lead/ICP-MS, Microwave (ppm)	0.0595	3	0.0042	0.0058	9.78	**22**	0.004	3
526.43	Lead/ICP, Microwave (ppm)	1.435	2		1.684			1.17745	2
526.33	Lead/AAS, Microwave (ppm)	0.4698	1					0.0472	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
526.52	Lead/ICP-MS, Open vessel (ppm)	0.0636	1					0.0006	1
526.41	Lead/ICP, Dry ash (ppm)	0.1594	1					0.0582	1
529.99	Mercury/Miscellaneous (ppb)	5.981	1					0.279	1
539.43	Nickel/ICP, Microwave (ppm)	3.032	4	1.186	1.897	62.6	**13.4**	0.3722	4
539.53	Nickel/ICP-MS, Microwave (ppm)	2.537	2		0.5909			0.19185	2
539.41	Nickel/ICP, Dry ash (ppm)	1.768	1					0.0797	1
539.52	Nickel/ICP-MS, Open vessel (ppm)	2.29	1					0.08	1
706.99	Caprylic acid (8:0)/Miscellaneous (% w/w)	0.0055	1					0.009	1
708.99	Capric acid (10:0)/Miscellaneous (% w/w)	0.004	1					0.006	1
710.99	Lauric Acid (12:0)/Miscellaneous (% w/w)	0.0035	1					0.003	1
714.99	Myristic Acid (14:0)/Miscellaneous (% w/w)	0.005	1					0.002	1
716.99	Palmitic Acid (16:0)/Miscellaneous (% w/w)	0.4457	2		0.0103			0.02435	2
718.99	Palmitoleic Acid (9c-16:1)/Miscellaneous (% w/w)	0.0055	1					0.001	1
720.99	Margaric acid (17:0)/Miscellaneous (% w/w)	0.0045	1					0.001	1
722.99	Stearic Acid (18:0)/Miscellaneous (% w/w)	0.0744	2		0.0037			0.00525	2
724.99	Oleic Acid (9c-18:1)/Miscellaneous (% w/w)	0.5867	2		0.0258			0.01765	2
726.99	Linoleic Acid (9c,12c-18:2)/Miscellaneous (% w/w)	1.47	2		0.0337			0.0484	2
728.99	alpha-Linolenic Acid (9c,12c,15c-18:3)/Miscellaneous (% w/w)	0.0863	2		0.0004			0.0013	1
730.99	Arachidic Acid (20:0)/Miscellaneous (% w/w)	0.0104	2		0.0002			0.00055	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
732.99	Gondoic Acid (11c-20:1)/Miscellaneous (% w/w)	0.0086	2		0.0001			0.001	1
742.99	Behenic Acid (22:0)/Miscellaneous (% w/w)	0.009	2		0.0014			0.0013	2
744.99	Erucic Acid (13c-22:1)/Miscellaneous (% w/w)	0.002	1						
748.99	Lignoceric Acid (24:0)/Miscellaneous (% w/w)	0.0106	2		0.0005			0.00105	2
750.99	Docosahexaenoic Acid DHA (4c,7c,10c,13c,16c,19c-22/Miscellaneous	0.0015	1					0.001	1
752.99	Nervonic Acid (24:1) isomers/Miscellaneous (% w/w)	0.0035	1					0.001	1
754.99	Total n-3 Polyunsaturated (Omega-3) Fatty Acids/Miscellaneous (%	0.088	1					0.002	1
756.99	Total n-6 Polyunsaturated (Omega-6) Fatty Acids/Miscellaneous (%	1.454	1					0.099	1
758.99	Total Saturated Fatty Acids/Miscellaneous (% w/w)	0.5865	1					0.067	1
764.99	Total cis Monounsaturated Fatty Acids/Miscellaneous (% w/w)	0.6235	1					0.029	1
768.99	Total cis Polyunsaturated Fatty Acids/Miscellaneous (% w/w)	1.546	1					0.095	1
770.99	Total Fat (equivalent to NLEA)/Miscellaneous (% w/w)	2.893	1					0.2	1
772.99	Total Fatty Acids/Miscellaneous (% w/w)	2.75	2		0.0216			0.1105	2

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.