

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 180211

Grade 14-14-14

Statistical Summary

Methods: 149

Labs Reporting: 100

Issue Date : 03/31/2018

Method Code	Analyte & Method Sample # 180211	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Hornitz %RSD
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	11	10	13.41	0.5861	13.46		0.5385	0.2129	4.00%		0.0742	2.70%
001.99	Ammoniacal Nitrogen, Other (%)	25	24	13.83	0.4100	13.81		0.3620	0.0924	2.62%		0.0966	2.69%
002.99	Nitrate Nitrogen, Other (%)	1		0.0500									
003.10	Water Insoluble Nitrogen, Method I (%)	1		0.0000									
010.10	Total Nitrogen, Reduced Iron (14%)	1		14.00									
010.11	Total Nitrogen, Modified Comprehensive (14%)	6	6	13.69	0.6325	13.86	0.6286	0.2866	0.1462	2.07%	1.06	0.0850	2.69%
010.12	Total Nitrogen, Salicylic (14%)	2	2	13.34	0.4769								
010.60	Total Nitrogen, Combustion (14%)	61	60	13.85	0.2155	13.83	0.6283	0.1696	0.0274	1.23%	0.63	0.1101	2.69%
010.99	Total Nitrogen, Other (14%)	7	7	14.07	0.4555	14.07	0.6314	0.5165	0.2440	3.67%	1.91	0.1316	2.69%
020.10	Total Phosphorus as P2O5, Gravimetric Quinolinium ..	4	4	14.67	0.2507	14.67		0.2507	0.1567	1.71%		0.1050	2.67%
020.20	Total Phosphorus as P2O5, Spectrophotometric Molyb	18	18	14.73	0.3560	14.74		0.3790	0.1117	2.57%		0.1181	2.67%
020.40	Total Phosphorus as P2O5, Automated (%)	3	3	14.66	0.2338	14.66		0.2338	0.1687	1.59%		0.1367	2.67%
020.50	Total Phosphorus as P2O5, ICP (%)	25	23	14.71	0.7234	14.67		0.7249	0.1889	4.94%		0.1949	2.67%
020.99	Total Phosphorus as P2O5, Other (%)	3	3	15.35	1.943	15.35		1.943	1.402	12.65%		1.005	2.65%
030.20	Citrate Insoluble Phosphorus as P2O5, Spectrophoto..	1		14.25									
030.40	Citrate Insoluble Phosphorus as P2O5, Automated, t...	1		0.0700									
040.20	Indirect Available Phosphorus as P2O5, Spectrophot...	1		14.96									
040.40	Indirect Available Phosphorus as P2O5, Automated (1..	1		14.38									
040.99	Indirect Available Phosphorus as P2O5, Other (14%)	1		14.79									
041.10	Direct Available Phosphorus as P2O5, Gravimetric Q..	5	5	14.54	0.1712	14.54	0.7000	0.1712	0.0957	1.18%	0.57	0.2595	2.67%
041.11	Direct Available Phosphorus as P2O5, Gravimetric Q..	4	4	14.46	0.3709	14.46	0.7000	0.3709	0.2318	2.57%	1.23	0.1478	2.68%
041.20	Direct Available Phosphorus as P2O5, Spectrophotom	2	2	14.50	0.3536								
041.21	Direct Available Phosphorus as P2O5, Spectrophotom	4	4	14.45	0.3474	14.45	0.7000	0.3474	0.2171	2.40%	1.16	0.1210	2.68%
041.50	Direct Available Phosphorus as P2O5, ICP (14%)	3	3	14.92	0.4813	14.92	0.7000	0.4813	0.3474	3.23%	1.60	0.0487	2.66%
041.51	Direct Available Phosphorus as P2O5, ICP, Citrate-...	11	10	14.28	0.5404	14.36	0.7000	0.4084	0.1614	2.84%	1.36	0.1400	2.68%
041.60	Direct Available Phosphorus as P2O5, Citrate-EDTA ..	13	13	14.41	0.4095	14.45	0.7000	0.3658	0.1268	2.53%	1.22	0.1230	2.68%
041.99	Direct Available Phosphorus as P2O5, Other (14%)	13	13	14.21	0.2070	14.19	0.7000	0.1799	0.0624	1.27%	0.60	0.1185	2.68%
048.10	Water Soluble Phosphorus as P2O5, Gravimetric Quin	1		13.13									
048.20	Water Soluble Phosphorus as P2O5, Spectrophotome	2	2	13.37	0.2051								
048.40	Water Soluble Phosphorus as P2O5, Automated (%)	1		13.09									
048.50	Water Soluble Phosphorus as P2O5, ICP (%)	2	2	13.45	0.5448								

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050.00	Soluble Potassium as K2O, STPB Oxalate (14%)	11	11	14.48	0.3763	14.52	0.8881	0.3421	0.1290	2.36%	0.90	0.0500	2.67%
050.30	Soluble Potassium as K2O, AA (Oxalate) (14%)	7	7	14.62	0.6043	14.62	0.8917	0.6853	0.3238	4.69%	1.79	0.1683	2.67%
050.31	Soluble Potassium as K2O, AA (Citrate) (14%)	1		10.50									
050.32	Soluble Potassium as K2O, AA (Citrate-EDTA) (14%)	1		15.11									
050.50	Soluble Potassium as K2O, ICP (Oxalate) (14%)	6	6	14.29	0.3451	14.31	0.8808	0.3458	0.1765	2.42%	0.91	0.3665	2.68%
050.51	Soluble Potassium as K2O, ICP (Citrate) (14%)	5	5	15.01	0.9145	15.01	0.9052	0.9145	0.5112	6.09%	2.35	0.0140	2.66%
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (14%)	12	12	14.76	1.172	14.52	0.8881	0.5468	0.1973	3.77%	1.43	0.2558	2.67%
050.60	Soluble Potassium as K2O, Flame Photometric (Oxala	5	5	15.27	1.274	15.27	0.9145	1.274	0.7122	8.34%	3.25	0.1420	2.65%
050.61	Soluble Potassium as K2O, Flame Photometric (Citra..	2	2	14.69	0.1909								
050.62	Soluble Potassium as K2O, Flame Photometric (Citra..	4	4	14.74	0.2092	14.74	0.8960	0.2092	0.1308	1.42%	0.54	0.2818	2.67%
050.99	Soluble Potassium as K2O, Other (14%)	40	39	14.55	0.5717	14.52	0.8881	0.5704	0.1142	3.93%	1.50	0.1755	2.67%
060.00	Water (Free), Vacuum Oven (%)	3	3	0.6723	0.1623	0.6723		0.1623	0.1171	24.14%		0.1183	4.25%
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours...	2	2	2.718	1.036								
060.99	Water (Free), Other (%)	1		0.7200									
101.30	Acid Soluble Calcium, ICP, test portion inorganic ... (%)	8	8	0.3287	0.1009	0.3046	0.2152	0.0451	0.0199	14.82%	0.49	0.0564	4.78%
101.32	Acid Soluble Calcium, ICP, test portion 2006.03A-C (%)	2	2	0.3788	0.1403								
101.33	Acid Soluble Calcium, ICP, test portion 2006.03A-C...	3	3	0.2990	0.0295	0.2990	0.2149	0.0295	0.0213	9.87%	0.32	0.0042	4.80%
101.99	Acid Soluble Calcium, Other (%)	1		0.2600									
121.00	Acid Soluble Magnesium, AA, inorganic 965.09 (1%)	6	6	0.6622	0.1294	0.6493	0.2325	0.1154	0.0589	17.77%	1.16	0.0232	4.27%
121.30	Acid Soluble Magnesium, ICP, test portion inorgani...	19	18	0.5682	0.0497	0.5688	0.2284	0.0334	0.0098	5.87%	0.34	0.0103	4.35%
121.31	Acid Soluble Magnesium, ICP, test portion organic ...	1		0.6550									
121.32	Acid Soluble Magnesium, ICP, test portion 2006.03A...	5	5	0.5669	0.0328	0.5669	0.2283	0.0328	0.0183	5.78%	0.33	0.0024	4.36%
121.33	Acid Soluble Magnesium, ICP, test portion 2006.03A...	10	9	0.5734	0.0364	0.5773	0.2289	0.0315	0.0131	5.46%	0.32	0.0096	4.34%
121.99	Acid Soluble Magnesium, Other (1%)	8	7	0.5194	0.2421	0.5451	0.2273	0.1632	0.0771	29.94%	1.67	0.0109	4.38%
131.00	Water Soluble Magnesium, AA (%)	2	2	0.3532	0.0238								
131.30	Water Soluble Magnesium, ICP (%)	6	6	0.3532	0.1601	0.3404		0.1509	0.0770	44.33%		0.0244	4.70%
131.99	Water Soluble Magnesium, Other (%)	2	2	0.2625	0.3005								
143.00	Elemental Sulfur, Gravimetric Sulfur - carbon disu...	1		0.3650									
143.99	Elemental Sulfur, Other (%)	5	5	10.23	0.4839	10.23		0.4839	0.2705	4.73%		0.1198	2.82%
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulfur - ... (%)	9	9	10.61	0.2504	10.62		0.2607	0.1086	2.45%		0.1280	2.80%
145.99	Sulfate Sulfur, HCl soluble, Other (%)	2	2	8.800	1.386								
148.00	Total Sulfur, Combustion (7.75%)	6	6	10.59	0.1841	10.58	0.7290	0.1882	0.0960	1.78%	0.60	0.1650	2.80%
148.01	Total Sulfur, Gravimetric - sulfate and elemental...	12	11	10.49	0.2118	10.49	0.7247	0.2401	0.0905	2.29%	0.77	0.0464	2.81%
148.04	Total Sulfur, ICP, w/Br digestion (7.75%)	1		10.43									
148.07	Total Sulfur, ICP, test portion as in 2006.03 modi...	16	15	10.31	0.9999	10.33	0.7163	0.8335	0.2690	8.07%	2.71	0.3663	2.81%
148.99	Total Sulfur, Other (7.75%)	11	11	10.57	0.9129	10.47	0.7233	0.6122	0.2307	5.85%	1.97	0.1383	2.81%
149.04	Sulfur - HNO3 soluble, ICP (%)	4	4	10.01	1.644	10.01		1.644	1.027	16.43%		0.0375	2.83%
151.00	Acid Soluble Arsenic , AA, test portion as in 2006...	2	2	117.2	39.25								
151.30	Acid Soluble Arsenic , ICP (ppm)	9	9	157.9	15.03	159.2		13.77	5.739	8.65%		7.712	7.46%
151.33	Acid Soluble Arsenic , ICP, 2006.03 modified w/9:3...	5	5	170.0	9.408	170.0		9.408	5.259	5.53%		6.345	7.38%
151.34	Acid Soluble Arsenic , ICP, EPA 3050B/6010C (ppm)	2	2	149.1	0.1358								
151.99	Acid Soluble Arsenic , Other (ppm)	3	3	120.4	65.64	120.4		65.64	47.37	54.53%		4.329	7.78%

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165.00	Acid Soluble Boron , Spectrophotometric (0.2%)	13	13	0.1940	0.0326	0.1977	0.0327	0.0184	0.0064	9.31%	1.31	0.0122	5.10%
165.30	Acid Soluble Boron , ICP, test portion in 982.01 (0.2%)	14	13	0.2101	0.0141	0.2095	0.0344	0.0128	0.0044	6.10%	0.87	0.0028	5.06%
165.99	Acid Soluble Boron , Other (0.2%)	20	19	0.2072	0.0210	0.2075	0.0341	0.0196	0.0056	9.46%	1.34	0.0041	5.07%
171.10	Water Soluble Boron , Spectrophotometric (%)	6	6	0.1273	0.0302	0.1273		0.0342	0.0175	26.88%		0.0203	5.45%
171.99	Water Soluble Boron , Other (%)	2	2	0.1835	0.0403								
181.00	Acid Soluble Cadmium , AA, test portion as in 2006...	2	2	189.8	14.47								
181.30	Acid Soluble Cadmium , ICP (ppm)	11	11	186.2	21.23	188.3		18.90	7.124	10.04%		8.958	7.27%
181.33	Acid Soluble Cadmium , ICP, 2006.03 modified w/9:3...	5	5	197.6	7.948	197.6		7.948	4.443	4.02%		14.34	7.22%
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	2	2	193.6	9.348								
181.99	Acid Soluble Cadmium , Other (ppm)	4	4	161.0	28.00	161.0		28.00	17.50	17.40%		13.45	7.45%
190.00	Water Soluble Chlorine, Titrimetric (%)	1		2.335									
190.99	Water Soluble Chlorine, Other (%)	1		12.33									
191.00	Acid Soluble Chromium , AA, test portion as in 200...	1		502.1									
191.30	Acid Soluble Chromium , ICP (ppm)	9	8	538.3	104.5	552.4		82.82	36.60	14.99%		17.29	6.18%
191.33	Acid Soluble Chromium , ICP, 2006.03 modified w/9:...	5	5	619.6	19.71	619.6		19.71	11.02	3.18%		29.26	6.08%
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C (ppm)	2	2	660.0	139.3								
191.99	Acid Soluble Chromium , Other (ppm)	4	4	449.3	297.7	449.3		297.7	186.1	66.26%		8.976	6.38%
202.30	Acid Soluble Cobalt , ICP (ppm)	8	8	377.8	28.02	382.6	115.7892	19.16	8.469	5.01%	0.39	15.29	6.54%
202.32	Acid Soluble Cobalt , ICP, 2006.03 (ppm)	1		350.5									
202.33	Acid Soluble Cobalt , ICP, 2006.03 modified w/9:3 ...	7	7	330.5	133.8	374.0	113.2086	26.97	12.74	7.21%	0.56	9.178	6.56%
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	1		377.1									
202.99	Acid Soluble Cobalt , Other (ppm)	5	5	388.5	66.30	388.5	117.5466	66.30	37.06	17.06%	1.31	6.629	6.52%
221.00	Acid Soluble Copper , AA, inorganic 965.09 (0.06%)	5	5	0.1288	0.0125	0.1288	0.0179	0.0125	0.0070	9.68%	1.62	0.0109	5.45%
221.03	Acid Soluble Copper , AA, 965.09, test portion 200...	2	2	0.1370	0.0042								
221.30	Acid Soluble Copper , ICP, test portion inorganic ...	19	18	0.1292	0.0350	0.1313	0.0181	0.0200	0.0059	15.22%	2.57	0.0069	5.43%
221.31	Acid Soluble Copper , ICP, test portion organic 96...	0	1	0.1258									
221.32	Acid Soluble Copper , ICP, test portion 2006.03A-C...	5	5	0.1300	0.0192	0.1300	0.0180	0.0192	0.0107	14.79%	2.49	0.0048	5.44%
221.33	Acid Soluble Copper , ICP, test portion 2006.03A-C...	10	10	0.1302	0.0077	0.1305	0.0180	0.0081	0.0032	6.24%	1.05	0.0061	5.43%
221.99	Acid Soluble Copper , Other (0.06%)	11	10	0.0851	0.0480	0.0851	0.0135	0.0544	0.0215	63.93%	9.38	0.0058	5.79%
241.00	Acid Soluble Iron, AA, inorganic 965.09 (1%)	5	5	0.6094	0.1123	0.6094	0.0659	0.1123	0.0628	18.42%	3.97	0.0445	4.31%
241.30	Acid Soluble Iron, ICP, test portion inorganic 965...	21	20	0.6517	0.0991	0.6617	0.0712	0.0783	0.0219	11.83%	2.56	0.0135	4.26%
241.32	Acid Soluble Iron, ICP, test portion 2006.03A-C (1%)	5	5	0.6048	0.0737	0.6048	0.0655	0.0737	0.0412	12.18%	2.62	0.0258	4.31%
241.33	Acid Soluble Iron, ICP, test portion 2006.03A-C, w...	12	12	0.6869	0.0435	0.6903	0.0740	0.0418	0.0151	6.05%	1.31	0.0258	4.23%
241.99	Acid Soluble Iron, Other (1%)	14	13	0.5099	0.2519	0.5484	0.0598	0.1966	0.0682	35.85%	7.66	0.0132	4.38%
251.00	Acid Soluble Lead , AA, test portion as in 2006.03...	2	2	885.6	59.30								
251.30	Acid Soluble Lead , ICP (ppm)	12	12	917.5	117.5	923.2		120.0	43.32	13.00%		53.65	5.72%
251.33	Acid Soluble Lead , ICP, 2006.03 modified w/9:3 HN...	5	5	964.0	81.29	964.0		81.29	45.44	8.43%		73.36	5.69%
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	2	2	1,021	193.0								
251.99	Acid Soluble Lead , Other (ppm)	4	4	643.0	383.9	643.0		383.9	240.0	59.71%		15.12	6.05%
261.12	Acid Soluble Manganese , AA, inorganic 965.09 (0.16%)	4	4	0.1579	0.0279	0.1579	0.0208	0.0279	0.0174	17.65%	3.12	0.0181	5.28%
261.30	Acid Soluble Manganese , ICP, test portion 972.02a...	8	8	0.1711	0.0077	0.1696	0.0220	0.0045	0.0020	2.64%	0.47	0.0074	5.22%
261.31	Acid Soluble Manganese , ICP, test portion 972.02b...	6	6	0.1618	0.0160	0.1612	0.0211	0.0167	0.0085	10.37%	1.84	0.0047	5.26%

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261.32	Acid Soluble Manganese , ICP, test portion inorgan...	5	5	0.1628	0.0049	0.1628	0.0213	0.0049	0.0027	2.98%	0.53	0.0072	5.26%
261.34	Acid Soluble Manganese , ICP, test portion 2006.03...	5	5	0.1643	0.0133	0.1643	0.0214	0.0133	0.0074	8.07%	1.44	0.0052	5.25%
261.35	Acid Soluble Manganese , ICP, test portion 2006.03...	12	11	0.1599	0.0086	0.1599	0.0210	0.0097	0.0036	6.04%	1.07	0.0052	5.27%
261.99	Acid Soluble Manganese , Other (0.16%)	12	11	0.1435	0.0499	0.1538	0.0204	0.0247	0.0093	16.06%	2.82	0.0066	5.30%
271.00	Water Soluble Manganese , AA (%)	3	3	0.0434	0.0494	0.0434		0.0494	0.0356	113.88%		0.0070	6.41%
271.30	Water Soluble Manganese , ICP, Ext. 972.03 (%)	2	2	0.1518	0.2026								
271.99	Water Soluble Manganese , Other (%)	1		0.0051									
281.00	Acid Soluble Mercury , AA (ppm)	1		40.00									
281.30	Acid Soluble Mercury , ICP (ppm)	4	4	46.20	23.78	46.20		23.78	14.86	51.46%		2.595	8.98%
281.99	Acid Soluble Mercury , Other (ppm)	2	2	31.02	20.32								
289.30	Acid Soluble Molybdenum , ICP (50ppm)	12	11	693.3	337.4	796.1	239.8440	137.5	51.82	17.27%	1.34	12.87	5.85%
289.32	Acid Soluble Molybdenum , ICP, 2006.03 (50ppm)	2	2	886.5	68.59								
289.33	Acid Soluble Molybdenum , ICP, 2006.03 modified w/...	9	8	852.3	90.56	869.4	261.8233	56.77	25.09	6.53%	0.51	31.37	5.78%
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/6010C (5...	2	2	718.7	48.54								
289.99	Acid Soluble Molybdenum , Other (50ppm)	4	4	789.3	628.6	789.3	237.7819	628.6	392.9	79.65%	6.16	14.61	5.86%
291.00	Acid Soluble Nickel , AA, test portion as in 2006.... (pp	2	2	17.46	2.765								
291.30	Acid Soluble Nickel , ICP (ppm)	12	11	12.68	2.495	12.68		2.830	1.066	22.32%		0.8348	10.92%
291.33	Acid Soluble Nickel , ICP, 2006.03 modified w/9:3 ... (p	5	5	15.65	1.194	15.65		1.194	0.6677	7.63%		2.275	10.57%
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	2	2	13.17	0.6675								
291.99	Acid Soluble Nickel , Other (ppm)	5	5	11.14	5.359	11.14		5.359	2.996	48.12%		0.9683	11.13%
301.30	Acid Soluble Selenium , ICP (ppm)	4	4	258.3	101.4	258.3		101.4	63.36	39.25%		8.213	6.93%
301.33	Acid Soluble Selenium , ICP, 2006.03 modified w/9:...	5	5	333.2	13.74	333.2		13.74	7.682	4.12%		20.57	6.67%
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C (ppm)	2	2	287.4	2.322								
301.99	Acid Soluble Selenium , Other (ppm)	5	5	309.2	35.67	309.2		35.67	19.94	11.54%		27.34	6.75%
311.32	Sodium, ICP, 2006.03 test portion (%)	2	2	0.4233	0.0484								
311.33	Sodium, ICP, 2006.03 modified w/9:3 HNO3:HCl test .	6	6	0.4660	0.0657	0.4660	0.0516	0.0745	0.0380	15.99%	3.37	0.0303	4.49%
311.99	Sodium, Other (%)	4	4	0.4800	0.0091	0.4800	0.0530	0.0091	0.0057	1.90%	0.40	0.0100	4.47%
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (0.13%)	10	9	0.1659	0.0274	0.1674	0.0217	0.0274	0.0114	16.35%	2.93	0.0074	5.23%
321.30	Acid Soluble Zinc , ICP, test portion inorganic 96... (0.1	20	20	0.1926	0.0189	0.1910	0.0241	0.0120	0.0034	6.29%	1.16	0.0082	5.13%
321.32	Acid Soluble Zinc , ICP, test portion 2006.03A-C ... (0.	5	5	0.2109	0.0511	0.2109	0.0261	0.0511	0.0285	24.21%	4.56	0.0104	5.06%
321.33	Acid Soluble Zinc , ICP, test portion 2006.03A-C, ... (0.	11	11	0.1954	0.0174	0.1953	0.0245	0.0195	0.0073	9.97%	1.85	0.0103	5.11%
321.99	Acid Soluble Zinc , Other (0.13%)	10	10	0.1427	0.0568	0.1516	0.0202	0.0400	0.0158	26.39%	4.62	0.0078	5.31%
325.00	Water Soluble Zinc , AA (%)	5	5	0.1618	0.2174	0.1618		0.2174	0.1215	134.31%		0.1830	5.26%
325.30	Water Soluble Zinc , ICP (%)	3	3	0.2032	0.2114	0.2032		0.2114	0.1525	104.04%		0.1108	5.08%

The Method IA Ratio = 2.33 * Robust SD / IA at the Method Assigned Value. IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 180211

Grade 14-14-14

Method Precision Report

Issue Date : 03/31/2018

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility SR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	11	10	13.41	0.5861	0.5840	0.0699	0.5881	4.36%	0.52%	4.39%	8.419
001.99	Ammoniacal Nitrogen, Other (%)	25	23	13.79	0.3491	0.3425	0.0952	0.3555	2.48%	0.69%	2.58%	3.736
010.60	Total Nitrogen, Combustion (14%)	61	56	13.84	0.1901	0.1795	0.0884	0.2001	1.30%	0.64%	1.45%	2.264
020.20	Total Phosphorus as P2O5, Spectrophotometric MolybdovanadoP (%)	18	17	14.73	0.3665	0.3614	0.0866	0.3716	2.45%	0.59%	2.52%	4.293
020.50	Total Phosphorus as P2O5, ICP (%)	25	22	14.73	0.7373	0.7294	0.1527	0.7452	4.95%	1.04%	5.06%	4.881
041.51	Direct Available Phosphorus as P2O5, ICP, Citrate-EDTA Ext. (14%)	11	9	14.42	0.3063	0.2949	0.1170	0.3172	2.04%	0.81%	2.20%	2.711
041.60	Direct Available Phosphorus as P2O5, Citrate-EDTA Ext. (14%)	13	12	14.41	0.4275	0.4234	0.0836	0.4316	2.94%	0.58%	2.99%	5.162
041.99	Direct Available Phosphorus as P2O5, Other (14%)	13	12	14.17	0.1447	0.1235	0.1066	0.1631	0.87%	0.75%	1.15%	1.530
050.00	Soluble Potassium as K2O, STPB Oxalate (14%)	11	11	14.48	0.3763	0.3751	0.0433	0.3776	2.59%	0.30%	2.61%	8.714
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (14%)	12	10	14.44	0.4620	0.4443	0.1792	0.4790	3.08%	1.24%	3.32%	2.674
050.99	Soluble Potassium as K2O, Other (14%)	40	35	14.46	0.4783	0.4712	0.1161	0.4853	3.26%	0.80%	3.36%	4.182
121.30	Acid Soluble Magnesium, ICP, test portion inorganic 965.09 (1%)	19	16	0.5677	0.0279	0.0270	0.0101	0.0288	4.76%	1.78%	5.08%	2.851
121.33	Acid Soluble Magnesium, ICP, test portion 2006.03A-C, w/dual acid (1%)	10	8	0.5832	0.0229	0.0223	0.0076	0.0235	3.82%	1.31%	4.03%	3.083
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulfur - sulfate form (%)	9	8	10.60	0.2619	0.2556	0.0810	0.2681	2.41%	0.76%	2.53%	3.309
148.01	Total Sulfur, Gravimetric - sulfate and elemental (7.75%)	12	11	10.49	0.2118	0.2096	0.0432	0.2140	2.00%	0.41%	2.04%	4.957
148.07	Total Sulfur, ICP, test portion as in 2006.03 modified w/9:3 HNO3:HCl (7.75%)	16	14	10.39	0.9781	0.9552	0.2975	1.000	9.19%	2.86%	9.63%	3.363
148.99	Total Sulfur, Other (7.75%)	11	10	10.34	0.5329	0.5262	0.1197	0.5396	5.09%	1.16%	5.22%	4.509
151.30	Acid Soluble Arsenic , ICP (ppm)	9	8	156.9	15.73	15.40	4.556	16.06	9.82%	2.90%	10.24%	3.525
165.00	Acid Soluble Boron , Spectrophotometric (0.2%)	13	12	0.2017	0.0183	0.0166	0.0110	0.0199	8.21%	5.47%	9.87%	1.804
165.30	Acid Soluble Boron , ICP, test portion in 982.01 (0.2%)	14	13	0.2101	0.0141	0.0139	0.0033	0.0143	6.62%	1.59%	6.80%	4.290
165.99	Acid Soluble Boron , Other (0.2%)	20	19	0.2072	0.0210	0.0207	0.0044	0.0212	10.01%	2.13%	10.23%	4.813
181.30	Acid Soluble Cadmium , ICP (ppm)	11	10	191.1	14.51	13.36	7.983	15.57	6.99%	4.18%	8.15%	1.950
221.30	Acid Soluble Copper , ICP, test portion inorganic 965.09 (0.06%)	19	17	0.1351	0.0249	0.0243	0.0076	0.0255	18.00%	5.60%	18.85%	3.363
221.33	Acid Soluble Copper , ICP, test portion 2006.03A-C, w/dual acid (0.06%)	10	10	0.1302	0.0077	0.0068	0.0053	0.0086	5.19%	4.10%	6.61%	1.611
221.99	Acid Soluble Copper , Other (0.06%)	11	10	0.0851	0.0480	0.0478	0.0055	0.0481	56.18%	6.52%	56.56%	8.681
241.30	Acid Soluble Iron, ICP, test portion inorganic 965.09 (1%)	21	19	0.6525	0.1017	0.1014	0.0115	0.1020	15.54%	1.76%	15.64%	8.900
241.33	Acid Soluble Iron, ICP, test portion 2006.03A-C, w/dual acid (1%)	12	12	0.6869	0.0435	0.0407	0.0218	0.0462	5.93%	3.17%	6.72%	2.123
241.99	Acid Soluble Iron, Other (1%)	14	12	0.5111	0.2631	0.2630	0.0100	0.2632	51.46%	1.96%	51.49%	26.27
251.30	Acid Soluble Lead , ICP (ppm)	12	12	917.5	117.5	113.3	44.05	121.5	12.35%	4.80%	13.25%	2.759
261.35	Acid Soluble Manganese , ICP, test portion 2006.03A-C, w/dual acid (0.16%)	12	11	0.1599	0.0086	0.0079	0.0047	0.0092	4.97%	2.91%	5.75%	1.978

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
261.99	Acid Soluble Manganese , Other (0.16%)	12	9	0.1551	0.0184	0.0181	0.0044	0.0186	11.67%	2.82%	12.01%	4.250
289.30	Acid Soluble Molybdenum , ICP (50ppm)	12	11	693.3	337.4	337.2	15.56	337.5	48.63%	2.24%	48.69%	21.70
291.30	Acid Soluble Nickel , ICP (ppm)	12	10	12.28	2.244	2.207	0.5722	2.280	17.97%	4.66%	18.56%	3.985
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (0.13%)	10	9	0.1659	0.0274	0.0270	0.0064	0.0278	16.30%	3.83%	16.75%	4.367
321.30	Acid Soluble Zinc , ICP, test portion inorganic 965.09 (0.13%)	20	19	0.1897	0.0140	0.0129	0.0075	0.0150	6.82%	3.97%	7.89%	1.987
321.33	Acid Soluble Zinc , ICP, test portion 2006.03A-C, w/dual acid (0.13%)	11	10	0.1924	0.0150	0.0141	0.0070	0.0158	7.33%	3.65%	8.19%	2.242
321.99	Acid Soluble Zinc , Other (0.13%)	10	9	0.1583	0.0300	0.0295	0.0078	0.0305	18.64%	4.92%	19.27%	3.918

Notes: Precision data calculated when 8 or more Tests included.