

Method Proficiency For All Labs

Magruder Fertilizer PT Program

Methods: 75

Sample # 220213

Regular PT Scheme Sample Doubles with N Scheme

Labs Reporting: 103

Granular Urea 46-0-0

Statistical Summary

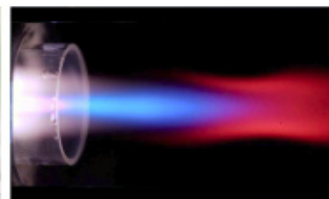
Issue Date : 03/31/2022

Method Code	Analyte & Method Sample # 220213	# 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)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	1		0.5000									
001.99	Ammoniacal N, Other (%)	1		0.4600									
005.20	Urea N, HPLC(asN),85%acetonitrilemobilephase (%)	2	2	44.49	0.1485								
005.99	Urea N, Other (%)	9	8	45.28	1.963	45.88		0.3413	0.1508	0.74%		0.1611	1.48%
006.10	Biuret N, Spectrophotometric (as N) (%)	7	7	0.8213	0.3741	0.9099		0.1867	0.0882	20.52%		0.0249	4.06%
007.00	Urea, Urease (as Urea) (%)	1		46.00									
007.20	Urea, HPLC,85%acetonitrilemobilephase (%)	1		1.225									
007.99	Urea, Other (%)	1		46.25									
008.00	Biuret, AA (as Biuret) (%)	1		0.9250									
008.10	Biuret, Spectrophotometric (as Biuret) (%)	9	8	0.8421	0.2967	0.9038		0.1041	0.0460	11.52%		0.0120	4.06%
008.99	Biuret, Other (%)	3	3	1.023	0.0568	1.023		0.0568	0.0410	5.55%		0.0927	3.99%
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	1		0.5000									
010.11	Total N, Modified Comprehensive (46%)	6	6	45.94	0.3655	45.94	0.8800	0.4145	0.2115	0.90%	1.10	0.1044	1.48%
010.12	Total N, Salicylic (46%)	6	6	45.93	0.5840	45.99	0.8800	0.5245	0.2677	1.14%	1.39	0.1833	1.47%
010.17	Total N, Comprehensive (46%)	1		46.19									
010.60	Total N, Combustion (46%)	58	57	46.39	0.6179	46.35	0.8800	0.4069	0.0674	0.88%	1.08	0.2781	1.47%
010.99	Total N, Other (46%)	27	26	46.15	0.5706	46.15	0.8800	0.3344	0.0820	0.72%	0.89	0.1017	1.47%
020.50	Total P2O5, ICP (%)	1		0.0019									
020.99	Total P2O5, Other (%)	1		0.0015									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	2	2	0.0565	0.0332								
041.50	Direct Available P2O5, ICP (%)	1		0.1000									
050.51	Soluble K2O, ICP (Citrate) (%)	1		0.0700									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0365									
050.99	Soluble K2O, Other (%)	3	2	0.0379	0.0540	0.0069	0.4100	0.0077	0.0068	112.62%	0.04	0.0011	8.46%
060.00	Water (Free), Vacuum Oven (%)	2	2	0.1050	0.0071								
060.10	Water (Free), Vacuum Desiccation (%)	1		0.2110									
060.20	Water (Free), Karl Fischer (%)	5	5	0.1924	0.0604	0.1924		0.0604	0.0338	31.41%		0.0045	5.13%
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g samp	1		0.1550									
060.99	Water (Free), Other (%)	5	5	0.3481	0.2246	0.3481		0.2246	0.1256	64.54%		0.0418	4.69%

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101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	2	1	0.0455	0.0629								
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	2	1	0.0075	0.0035								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	1		0.0097									
121.99	Acid Soluble Mg, Other (%)	2	2	0.0093	0.0105								
148.07	Total S, ICP, test portion as in 2017.02 (%)	1		0.0016									
148.99	Total S, Other (%)	1		0.0350									
149.04	S - HNO3 soluble, ICP (%)	1		0.0004									
151.30	Acid Soluble As, ICP (ppm)	1		0.0083									
151.99	Acid Soluble As, Other (ppm)	1		0.0350									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	1		0.0100									
165.99	Acid Soluble B, Other (%)	1		0.0001									
181.30	Acid Soluble Cd, ICP (ppm)	1		0.0022									
181.99	Acid Soluble Cd, Other (ppm)	1		0.0100									
191.30	Acid Soluble Cr, ICP (ppm)	1		0.1751									
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	1		1.395									
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		4.472									
191.99	Acid Soluble Cr, Other (ppm)	1		0.8350									
202.30	Acid Soluble Co, ICP (ppm)	1		0.1279									
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	1		0.7092									
202.99	Acid Soluble Co, Other (ppm)	1		0.0100									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	1		0.0100									
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	1		0.0005									
221.99	Acid Soluble Cu, Other (%)	3	2	0.0003	0.0003	0.0005	0.0050	0.0004	0.0003	78.57%	0.16	0.0001	12.76%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	1		0.0100									
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	1		0.0018									
241.99	Acid Soluble Fe, Other (%)	2	2	0.0044	0.0059								
251.30	Acid Soluble Pb, ICP (ppm)	1		0.0402									
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	1		4.075									
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		1.372									
251.99	Acid Soluble Pb, Other (ppm)	1		0.1400									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	1		0.0100									
261.99	Acid Soluble Mn, Other (%)	1		0.0002									
281.30	Acid Soluble Hg, ICP (ppm)	1		0.0000									
281.99	Acid Soluble Hg, Other (ppm)	2	2	0.0061	0.0056								
289.30	Acid Soluble Mo, ICP (ppm)	1		0.0279									
289.99	Acid Soluble Mo, Other (ppm)	1		0.1350									
291.30	Acid Soluble Ni, ICP (ppm)	1		0.0065									
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	1		0.9805									
291.99	Acid Soluble Ni, Other (ppm)	1		0.3350									
301.30	Acid Soluble Se, ICP (ppm)	1		0.0537									

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301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	1		3.593									
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		4.484									
301.99	Acid Soluble Se, Other (ppm)	1		0.0800									
311.99	Sodium, Other (%)	1		0.0250									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	1		0.0100									
321.99	Acid Soluble Zn, Other (%)	1		0.0003									

The Method IA Ratio = $2.33 * \text{Robust SD} / \text{IA at the Method Assigned Value}$. 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. The Horwitz %RSD is calculated using the Thompson Modification, Analyst, 2000, 125, 385-386.



Method Proficiency For All Labs

Magruder Fertilizer PT Program

Sample # 220213

Regular PT Scheme Sample Doubles with N Scheme

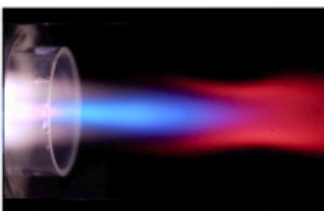
Granular Urea 46-0-0

Method Precision Report

Issue Date : 03/31/2022

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
005.99	Urea N, Other (%)	9	8	45.92	0.4204	0.4091	0.1368	0.4313	0.89%	0.30%	0.94%	3.154
006.10	Biuret N, Spectrophotometric (as N) (%)	7	5	0.9409	0.1263	0.1259	0.0139	0.1267	13.38%	1.48%	13.46%	9.118
008.10	Biuret, Spectrophotometric (as Biuret) (%)	9	7	0.9354	0.0943	0.0940	0.0111	0.0946	10.05%	1.18%	10.12%	8.552
010.11	Total N, Modified Comprehensive (46%)	6	6	45.94	0.3655	0.3608	0.0821	0.3701	0.79%	0.18%	0.81%	4.508
010.12	Total N, Salicylic (46%)	6	5	45.96	0.6489	0.6465	0.0791	0.6513	1.41%	0.17%	1.42%	8.232
010.60	Total N, Combustion (46%)	58	52	46.39	0.3816	0.3574	0.1891	0.4044	0.77%	0.41%	0.87%	2.138
010.99	Total N, Other (46%)	27	22	46.12	0.2729	0.2695	0.0610	0.2763	0.58%	0.13%	0.60%	4.526
060.20	Water (Free), Karl Fischer (%)	5	5	0.1924	0.0604	0.0604	0.0045	0.0605	31.37%	2.35%	31.46%	13.38
060.99	Water (Free), Other (%)	5	5	0.3481	0.2246	0.2229	0.0392	0.2263	64.05%	11.25%	65.03%	5.781

Notes: Precision data calculated when 5 or more Tests included.



Method Proficiency For All Labs

Magruder Fertilizer PT Program

Methods: 75

Sample # 220213

Regular PT Scheme Sample Doubles with N Scheme

Labs Reporting: 103

Granular Urea 46-0-0

Lab Values

Issue Date : 03/31/2022

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	< 0.5					0			5
001.99	Ammoniacal N, Other (%)	0524	0.4600	0.0000				1			0
005.20	Urea N, HPLC(asN),85%acetonitrilemobilephase (%)	0356	44.39	0.3700				2			0
005.20	Urea N, HPLC(asN),85%acetonitrilemobilephase (%)	0451	44.60	2.290				2			0
005.99	Urea N, Other (%)	0535	45.30	0.2000	45.88	0.3413	0.1611	8	-1.56	NA	0
005.99	Urea N, Other (%)	0524	45.64	0.3700	45.88	0.3413	0.1611	8	-0.66	NA	0
005.99	Urea N, Other (%)	0549	45.81	0.1200	45.88	0.3413	0.1611	8	-0.19	NA	0
005.99	Urea N, Other (%)	0538	45.87	0.0600	45.88	0.3413	0.1611	8	-0.03	NA	0
005.99	Urea N, Other (%)	0569	45.88	0.2000	45.88	0.3413	0.1611	8	0.00	NA	0
005.99	Urea N, Other (%)	0519	46.02	0.0190	45.88	0.3413	0.1611	8	0.37	NA	0
005.99	Urea N, Other (%)	0415	46.07	0.0800	45.88	0.3413	0.1611	8	0.51	NA	0
005.99	Urea N, Other (%)	0300	46.77	0.2400	45.88	0.3413	0.1611	8	2.38	NA	0
005.99	Urea N, Other (%)	0553	40.15	3.700	45.88	0.3413	0.1611	8	-15.36	NA	1
006.10	Biuret N, Spectrophotometric (as N) (%)	0563	0.0096	0.0022	0.9099	0.1867	0.0249	7	-4.36	NA	0
006.10	Biuret N, Spectrophotometric (as N) (%)	0558	0.7357	0.0103	0.9099	0.1867	0.0249	7	-0.84	NA	0
006.10	Biuret N, Spectrophotometric (as N) (%)	0594	0.9200	0.0200	0.9099	0.1867	0.0249	7	0.05	NA	0
006.10	Biuret N, Spectrophotometric (as N) (%)	0481	0.9900	0.0200	0.9099	0.1867	0.0249	7	0.39	NA	0
006.10	Biuret N, Spectrophotometric (as N) (%)	0595	0.9900	0.0000	0.9099	0.1867	0.0249	7	0.39	NA	0
006.10	Biuret N, Spectrophotometric (as N) (%)	0444	1.035	0.0900	0.9099	0.1867	0.0249	7	0.61	NA	0
006.10	Biuret N, Spectrophotometric (as N) (%)	0575	1.069	0.0320	0.9099	0.1867	0.0249	7	0.77	NA	0
007.00	Urea, Urease (as Urea) (%)	0540	46.00	0.1000				1			0
007.20	Urea, HPLC,85%acetonitrilemobilephase (%)	0220	1.225	0.0900				1			0
007.99	Urea, Other (%)	0444	46.25	0.1000				1			0
008.00	Biuret, AA (as Biuret) (%)	0498	0.9250	0.0100				1			0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0572	0.0815	0.0010	0.9038	0.1041	0.0120	8	-7.22	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0493	0.8350	0.0100	0.9038	0.1041	0.0120	8	-0.60	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0513	0.8650	0.0100	0.9038	0.1041	0.0120	8	-0.34	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0534	0.9050	0.0100	0.9038	0.1041	0.0120	8	0.01	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0405	0.9100	0.0200	0.9038	0.1041	0.0120	8	0.05	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0510	0.9456	0.0071	0.9038	0.1041	0.0120	8	0.37	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0585	0.9620	0.0080	0.9038	0.1041	0.0120	8	0.51	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0578	1.125	0.0300	0.9038	0.1041	0.0120	8	1.94	NA	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0415	0.9500	0.1000	0.9038	0.1041	0.0120	8	0.41	NA	1
008.99	Biuret, Other (%)	0585	0.9630	0.0040	1.023	0.0568	0.0927	3	-1.06		0
008.99	Biuret, Other (%)	0548	1.030	0.0800	1.023	0.0568	0.0927	3	0.12		0
008.99	Biuret, Other (%)	0476	1.076	0.1940	1.023	0.0568	0.0927	3	0.93		0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0444	< 0.5					0			5
010.11	Total N, Modified Comprehensive (46%)	0535	45.50	0.2000	45.94	0.4145	0.1044	6	-0.94	OK	0
010.11	Total N, Modified Comprehensive (46%)	0578	45.54	0.0401	45.94	0.4145	0.1044	6	-0.86	OK	0
010.11	Total N, Modified Comprehensive (46%)	0600	46.00	0.0600	45.94	0.4145	0.1044	6	0.13	OK	0
010.11	Total N, Modified Comprehensive (46%)	0539	46.01	0.1000	45.94	0.4145	0.1044	6	0.15	OK	0
010.11	Total N, Modified Comprehensive (46%)	0548	46.13	0.1100	45.94	0.4145	0.1044	6	0.40	OK	0
010.11	Total N, Modified Comprehensive (46%)	0510	46.46	0.1165	45.94	0.4145	0.1044	6	1.12	OK	0
010.12	Total N, Salicylic (46%)	0117	44.86	0.0400	45.99	0.5245	0.1833	6	-1.92	Low	0
010.12	Total N, Salicylic (46%)	0498	45.80	0.6000	45.99	0.5245	0.1833	6	-0.32	OK	0
010.12	Total N, Salicylic (46%)	0211	46.03	0.1400	45.99	0.5245	0.1833	6	0.07	OK	0
010.12	Total N, Salicylic (46%)	0572	46.06	0.0500	45.99	0.5245	0.1833	6	0.11	OK	0
010.12	Total N, Salicylic (46%)	0602	46.30	0.1700	45.99	0.5245	0.1833	6	0.52	OK	0
010.12	Total N, Salicylic (46%)	0568	46.55	0.1000	45.99	0.5245	0.1833	6	0.95	OK	0
010.17	Total N, Comprehensive (46%)	0585	46.19	0.0000				1			0
010.60	Total N, Combustion (46%)	0593	44.03	0.7500	46.35	0.4069	0.2781	57	-5.71	Low	0
010.60	Total N, Combustion (46%)	0086	45.35	1.353	46.35	0.4069	0.2781	57	-2.46	Low	0
010.60	Total N, Combustion (46%)	0421	45.63	0.6300	46.35	0.4069	0.2781	57	-1.78	OK	0
010.60	Total N, Combustion (46%)	0157	45.75	1.900	46.35	0.4069	0.2781	57	-1.47	OK	0
010.60	Total N, Combustion (46%)	0025	45.76	0.6100	46.35	0.4069	0.2781	57	-1.46	OK	0
010.60	Total N, Combustion (46%)	0356	45.81	0.3260	46.35	0.4069	0.2781	57	-1.32	OK	0
010.60	Total N, Combustion (46%)	0472	45.83	0.1300	46.35	0.4069	0.2781	57	-1.29	OK	0
010.60	Total N, Combustion (46%)	0136	45.85	0.1000	46.35	0.4069	0.2781	57	-1.23	OK	0
010.60	Total N, Combustion (46%)	0234	45.95	0.3000	46.35	0.4069	0.2781	57	-0.98	OK	0
010.60	Total N, Combustion (46%)	0095	45.96	0.1000	46.35	0.4069	0.2781	57	-0.96	OK	0
010.60	Total N, Combustion (46%)	0102	45.97	0.0500	46.35	0.4069	0.2781	57	-0.94	OK	0
010.60	Total N, Combustion (46%)	0377	46.04	0.4800	46.35	0.4069	0.2781	57	-0.76	OK	0
010.60	Total N, Combustion (46%)	0043	46.05	0.0500	46.35	0.4069	0.2781	57	-0.75	OK	0
010.60	Total N, Combustion (46%)	0231	46.09	0.1000	46.35	0.4069	0.2781	57	-0.64	OK	0
010.60	Total N, Combustion (46%)	0042	46.10	0.4000	46.35	0.4069	0.2781	57	-0.61	OK	0
010.60	Total N, Combustion (46%)	0389	46.12	0.0400	46.35	0.4069	0.2781	57	-0.56	OK	0
010.60	Total N, Combustion (46%)	0027	46.15	0.3000	46.35	0.4069	0.2781	57	-0.49	OK	0
010.60	Total N, Combustion (46%)	0325	46.15	1.500	46.35	0.4069	0.2781	57	-0.49	OK	0
010.60	Total N, Combustion (46%)	0451	46.15	0.5000	46.35	0.4069	0.2781	57	-0.49	OK	0
010.60	Total N, Combustion (46%)	0494	46.19	0.1100	46.35	0.4069	0.2781	57	-0.40	OK	0
010.60	Total N, Combustion (46%)	0547	46.21	0.0300	46.35	0.4069	0.2781	57	-0.35	OK	0
010.60	Total N, Combustion (46%)	0041	46.23	0.5300	46.35	0.4069	0.2781	57	-0.30	OK	0
010.60	Total N, Combustion (46%)	0405	46.23	0.0200	46.35	0.4069	0.2781	57	-0.29	OK	0
010.60	Total N, Combustion (46%)	0055	46.24	0.2800	46.35	0.4069	0.2781	57	-0.27	OK	0
010.60	Total N, Combustion (46%)	0444	46.25	0.1000	46.35	0.4069	0.2781	57	-0.24	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.60	Total N, Combustion (46%)	0260	46.30	0.2000	46.35	0.4069	0.2781	57	-0.12	OK	0
010.60	Total N, Combustion (46%)	0579	46.33	0.1960	46.35	0.4069	0.2781	57	-0.04	OK	0
010.60	Total N, Combustion (46%)	0481	46.35	0.6500	46.35	0.4069	0.2781	57	-0.01	OK	0
010.60	Total N, Combustion (46%)	0452	46.35	0.0200	46.35	0.4069	0.2781	57	0.00	OK	0
010.60	Total N, Combustion (46%)	0586	46.37	0.2200	46.35	0.4069	0.2781	57	0.05	OK	0
010.60	Total N, Combustion (46%)	0177	46.40	0.1630	46.35	0.4069	0.2781	57	0.13	OK	0
010.60	Total N, Combustion (46%)	0220	46.41	0.0400	46.35	0.4069	0.2781	57	0.15	OK	0
010.60	Total N, Combustion (46%)	0169	46.42	0.0200	46.35	0.4069	0.2781	57	0.18	OK	0
010.60	Total N, Combustion (46%)	0360	46.43	0.0300	46.35	0.4069	0.2781	57	0.19	OK	0
010.60	Total N, Combustion (46%)	0023	46.43	0.0420	46.35	0.4069	0.2781	57	0.19	OK	0
010.60	Total N, Combustion (46%)	0390	46.50	0.0120	46.35	0.4069	0.2781	57	0.36	OK	0
010.60	Total N, Combustion (46%)	0534	46.50	0.0000	46.35	0.4069	0.2781	57	0.37	OK	0
010.60	Total N, Combustion (46%)	0029	46.51	0.3800	46.35	0.4069	0.2781	57	0.40	OK	0
010.60	Total N, Combustion (46%)	0521	46.59	0.0000	46.35	0.4069	0.2781	57	0.61	OK	0
010.60	Total N, Combustion (46%)	0561	46.61	0.3500	46.35	0.4069	0.2781	57	0.63	OK	0
010.60	Total N, Combustion (46%)	0049	46.62	0.2900	46.35	0.4069	0.2781	57	0.65	OK	0
010.60	Total N, Combustion (46%)	0040	46.65	0.3000	46.35	0.4069	0.2781	57	0.74	OK	0
010.60	Total N, Combustion (46%)	0073	46.65	0.3400	46.35	0.4069	0.2781	57	0.74	OK	0
010.60	Total N, Combustion (46%)	0422	46.66	0.1200	46.35	0.4069	0.2781	57	0.77	OK	0
010.60	Total N, Combustion (46%)	0072	46.67	0.1500	46.35	0.4069	0.2781	57	0.78	OK	0
010.60	Total N, Combustion (46%)	0035	46.70	0.0000	46.35	0.4069	0.2781	57	0.86	OK	0
010.60	Total N, Combustion (46%)	0354	46.70	0.0000	46.35	0.4069	0.2781	57	0.86	OK	0
010.60	Total N, Combustion (46%)	0527	46.71	0.0030	46.35	0.4069	0.2781	57	0.88	OK	0
010.60	Total N, Combustion (46%)	0291	46.74	0.0100	46.35	0.4069	0.2781	57	0.95	OK	0
010.60	Total N, Combustion (46%)	0230	46.75	0.1000	46.35	0.4069	0.2781	57	0.99	OK	0
010.60	Total N, Combustion (46%)	0324	46.75	0.1000	46.35	0.4069	0.2781	57	0.99	OK	0
010.60	Total N, Combustion (46%)	0485	46.78	0.4800	46.35	0.4069	0.2781	57	1.06	OK	0
010.60	Total N, Combustion (46%)	0543	46.93	0.0100	46.35	0.4069	0.2781	57	1.42	OK	0
010.60	Total N, Combustion (46%)	0542	47.25	0.0480	46.35	0.4069	0.2781	57	2.21	High	0
010.60	Total N, Combustion (46%)	0587	47.29	0.2300	46.35	0.4069	0.2781	57	2.30	High	0
010.60	Total N, Combustion (46%)	0255	47.41	0.3270	46.35	0.4069	0.2781	57	2.60	High	0
010.60	Total N, Combustion (46%)	0368	48.21	0.3290	46.35	0.4069	0.2781	57	4.58	High	0
010.60	Total N, Combustion (46%)	0131	48.36	3.820	46.35	0.4069	0.2781	57	4.94	High	1
010.99	Total N, Other (46%)	0518	44.50	0.0500	46.15	0.3344	0.1017	26	-4.93	Low	0
010.99	Total N, Other (46%)	0533	45.64	0.1500	46.15	0.3344	0.1017	26	-1.53	OK	0
010.99	Total N, Other (46%)	0476	45.65	0.1118	46.15	0.3344	0.1017	26	-1.48	OK	0
010.99	Total N, Other (46%)	0558	45.78	0.0256	46.15	0.3344	0.1017	26	-1.09	OK	0
010.99	Total N, Other (46%)	0532	45.92	0.1200	46.15	0.3344	0.1017	26	-0.67	OK	0
010.99	Total N, Other (46%)	0536	45.96	0.1200	46.15	0.3344	0.1017	26	-0.55	OK	0
010.99	Total N, Other (46%)	0564	45.97	0.1600	46.15	0.3344	0.1017	26	-0.52	OK	0
010.99	Total N, Other (46%)	0560	45.99	0.0610	46.15	0.3344	0.1017	26	-0.46	OK	0
010.99	Total N, Other (46%)	0576	46.00	0.0000	46.15	0.3344	0.1017	26	-0.43	OK	0
010.99	Total N, Other (46%)	0600	46.01	0.0600	46.15	0.3344	0.1017	26	-0.40	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.99	Total N, Other (46%)	0556	46.02	0.0200	46.15	0.3344	0.1017	26	-0.37	OK	0
010.99	Total N, Other (46%)	0562	46.15	0.1000	46.15	0.3344	0.1017	26	0.01	OK	0
010.99	Total N, Other (46%)	0559	46.16	0.0100	46.15	0.3344	0.1017	26	0.03	OK	0
010.99	Total N, Other (46%)	0551	46.17	0.0000	46.15	0.3344	0.1017	26	0.07	OK	0
010.99	Total N, Other (46%)	0567	46.17	0.0000	46.15	0.3344	0.1017	26	0.07	OK	0
010.99	Total N, Other (46%)	0585	46.22	0.0400	46.15	0.3344	0.1017	26	0.22	OK	0
010.99	Total N, Other (46%)	0493	46.23	0.1000	46.15	0.3344	0.1017	26	0.25	OK	0
010.99	Total N, Other (46%)	0595	46.26	0.0000	46.15	0.3344	0.1017	26	0.34	OK	0
010.99	Total N, Other (46%)	0602	46.30	0.1300	46.15	0.3344	0.1017	26	0.45	OK	0
010.99	Total N, Other (46%)	0594	46.30	0.0000	46.15	0.3344	0.1017	26	0.46	OK	0
010.99	Total N, Other (46%)	0513	46.31	0.0900	46.15	0.3344	0.1017	26	0.48	OK	0
010.99	Total N, Other (46%)	0575	46.47	0.0860	46.15	0.3344	0.1017	26	0.97	OK	0
010.99	Total N, Other (46%)	0563	46.52	0.4400	46.15	0.3344	0.1017	26	1.12	OK	0
010.99	Total N, Other (46%)	0537	46.68	0.6000	46.15	0.3344	0.1017	26	1.60	OK	0
010.99	Total N, Other (46%)	0481	46.89	0.1100	46.15	0.3344	0.1017	26	2.21	OK	0
010.99	Total N, Other (46%)	0545	48.04	0.0600	46.15	0.3344	0.1017	26	5.67	High	0
010.99	Total N, Other (46%)	0524	45.77	1.274	46.15	0.3344	0.1017	26	-1.13	OK	1
020.50	Total P2O5, ICP (%)	0524	0.0019	0.0002				1			0
020.99	Total P2O5, Other (%)	0515	0.0015	0.0001				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0354	0.0330	0.0060				2			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0568	0.0800	0.0000				2			0
041.50	Direct Available P2O5, ICP (%)	0325	< 0.1					0			5
050.51	Soluble K2O, ICP (Citrate) (%)	0568	0.0700	0.0000				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0365	0.0010				1			0
050.99	Soluble K2O, Other (%)	0515	0.0014	0.0002				2			0
050.99	Soluble K2O, Other (%)	0524	0.0124	0.0019				2			0
050.99	Soluble K2O, Other (%)	0325	< 0.1					2			5
060.00	Water (Free), Vacuum Oven (%)	0405	0.1000	0.0000				2			0
060.00	Water (Free), Vacuum Oven (%)	0220	0.1100	0.0200				2			0
060.10	Water (Free), Vacuum Desiccation (%)	0575	0.2110	0.0220				1			0
060.20	Water (Free), Karl Fischer (%)	0585	0.1300	0.0000	0.1924	0.0604	0.0045	5	-1.03		0
060.20	Water (Free), Karl Fischer (%)	0595	0.1300	0.0020	0.1924	0.0604	0.0045	5	-1.03		0
060.20	Water (Free), Karl Fischer (%)	0594	0.2050	0.0100	0.1924	0.0604	0.0045	5	0.21		0
060.20	Water (Free), Karl Fischer (%)	0493	0.2350	0.0100	0.1924	0.0604	0.0045	5	0.70		0
060.20	Water (Free), Karl Fischer (%)	0578	0.2621	0.0007	0.1924	0.0604	0.0045	5	1.15		0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sampl	0593	0.1550	0.0500				1			0
060.99	Water (Free), Other (%)	0586	0.0750	0.0300	0.3481	0.2246	0.0418	5	-1.22		0
060.99	Water (Free), Other (%)	0513	0.2330	0.0020	0.3481	0.2246	0.0418	5	-0.51		0
060.99	Water (Free), Other (%)	0510	0.3273	0.0269	0.3481	0.2246	0.0418	5	-0.09		0
060.99	Water (Free), Other (%)	0548	0.4300	0.0400	0.3481	0.2246	0.0418	5	0.36		0
060.99	Water (Free), Other (%)	0498	0.6750	0.1100	0.3481	0.2246	0.0418	5	1.46		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.0900	0.0400				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	< 0.001					1			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.0100	0.0000				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	< 0.005					1			5
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.0097	0.0000				1			0
121.99	Acid Soluble Mg, Other (%)	0524	0.0019	0.0000				2			0
121.99	Acid Soluble Mg, Other (%)	0515	0.0168	0.0147				2			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0515	0.0016	0.0002				1			0
148.99	Total S, Other (%)	0354	0.0350	0.0300				1			0
149.04	S - HNO3 soluble, ICP (%)	0524	0.0004	0.0001				1			0
151.30	Acid Soluble As, ICP (ppm)	0524	0.0083	0.0089				1			0
151.99	Acid Soluble As, Other (ppm)	0519	0.0350	0.0100				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
165.99	Acid Soluble B, Other (%)	0524	0.0001	0.0000				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0022	0.0044				0			4
181.99	Acid Soluble Cd, Other (ppm)	0519	0.0100	0.0000				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0524	0.1751	0.0127				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	1.395	0.0300				1			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	4.472	3.363				1			0
191.99	Acid Soluble Cr, Other (ppm)	0519	0.8350	0.0900				1			0
202.30	Acid Soluble Co, ICP (ppm)	0524	0.1279	0.0480				1			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	0.7092	0.0437				1			0
202.99	Acid Soluble Co, Other (ppm)	0519	0.0100	0.0000				1			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0005	0.0000				1			0
221.99	Acid Soluble Cu, Other (%)	0524	0.0002	0.0000				2			0
221.99	Acid Soluble Cu, Other (%)	0515	0.0007	0.0002				2			0
221.99	Acid Soluble Cu, Other (%)	0519	< 0.0001					2			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.0018	0.0005				1			0
241.99	Acid Soluble Fe, Other (%)	0524	0.0002	0.0001				2			0
241.99	Acid Soluble Fe, Other (%)	0515	0.0086	0.0077				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.0402	0.0804				0			4
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	4.075	0.6960				1			0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	1.372	1.866				1			0
251.99	Acid Soluble Pb, Other (ppm)	0519	0.1400	0.0400				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					0			5
261.99	Acid Soluble Mn, Other (%)	0524	0.0002	0.0000				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				0			4
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0022	0.0013				2			0
281.99	Acid Soluble Hg, Other (ppm)	0519	0.0100	0.0000				2			0
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.0279	0.0557				0			4
289.99	Acid Soluble Mo, Other (ppm)	0519	0.1350	0.0500				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0524	0.0065	0.0129				0			4
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	0.9805	0.4270				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
291.99	Acid Soluble Ni, Other (ppm)	0519	0.3350	0.0700				1			0
301.30	Acid Soluble Se, ICP (ppm)	0524	0.0537	0.0205				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	3.593	0.1380				1			0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	4.484	0.2920				1			0
301.99	Acid Soluble Se, Other (ppm)	0519	0.0800	0.0400				1			0
311.99	Sodium, Other (%)	0354	0.0250	0.0100				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
321.99	Acid Soluble Zn, Other (%)	0524	0.0003	0.0001				1			0

Interpreting Z Scores and Flags:

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated.

Notes:

Robust statistics not used if < 6 labs used in calculations, in this case Values and Z Scores are grayed out and should be interpreted with extreme caution. IA Status describes where your result is relative to the Assigned Value $\pm$ IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. Method codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.