



Analyte PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Analytes: 19

Sample # 240851

Potassium Select PT Scheme

Labs Reporting: 17

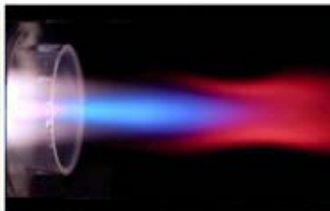
K-Mg-SO4

Statistical Summary

Issue Date : 09/30/2024

Analyte Code	Analyte Sample # 240851	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Analyte IA Ratio	Average Range (R-bar)	Horwitz %RSD
050	Soluble K2O (21.5%)	18	17	21.92	0.7648	21.91	1.1469	0.5892	0.1786	2.69%	1.20	0.1512	2.14%
101	Acid Soluble Ca (%)	1		0.1043									
121	Acid Soluble Mg (10.8%)	12	12	11.14	0.4001	11.14	0.7568	0.4537	0.1637	4.07%	1.40	0.2022	2.78%
143	Elemental S (%)	2	2	11.06	15.54								
145	Sulfate S, HCl soluble (%)	2	2	22.97	0.2970								
148	Total S (22%)	9	8	22.95	0.9385	22.85	1.0000	1.074	0.4747	4.70%	2.50	0.1252	2.09%
151	Acid Soluble As (ppm)	4	0	1.108	1.262	22.85		1.074		4.70%		0.0100	9.99%
181	Acid Soluble Cd (ppm)	4	0	0.3130	0.4586	22.85		1.074		4.70%		0.0100	9.99%
190	Water Soluble Cl (1.5%)	6	6	0.7743	0.0772	0.7633	0.0813	0.0603	0.0307	7.89%	1.73	0.0285	4.17%
191	Acid Soluble Cr (ppm)	4	2	0.5575	0.3097	0.4750		0.0354	0.0313	7.44%		0.1000	17.89%
202	Acid Soluble Co (ppm)	3	0	0.4000	0.5196	0.4750	1.1425	0.0354		7.44%	0.07	0.0500	17.89%
221	Acid Soluble Cu (%)	1		0.0002									
251	Acid Soluble Pb (ppm)	3	0	1.800	1.905	0.4750		0.0354		7.44%		0.0500	17.89%
281	Acid Soluble Hg (ppm)	2	0	1.005	1.407								
289	Acid Soluble Mo (ppm)	4	3	0.4356	0.4086	0.2475	1.0743	0.1951	0.1408	78.83%	0.42	0.0203	19.74%
291	Acid Soluble Ni (ppm)	3	2	0.5383	0.3999	0.3075		0.0106	0.0094	3.45%		0.0350	19.10%
301	Acid Soluble Se (ppm)	3	2	3.733	5.427	0.6000		0.0000	0.0000	0.00%		0.2000	17.28%
311	Sodium (%)	2	2	0.6901	0.2898								
321	Acid Soluble Zn (%)	1		0.0003									

The Analyte IA Ratio = 2.33 * Robust SD / IA at the Analyte 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.



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K-Mg-SO4

Lab Values

Issue Date : 09/30/2024

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
050	Soluble K2O (21.5%)	0371	19.80†	0.0000	21.91	0.5892	0.1512	17	-3.59	050.99	0
050	Soluble K2O (21.5%)	0055	21.24	0.1250	21.91	0.5892	0.1512	17	-1.15	050.50	0
050	Soluble K2O (21.5%)	0007	21.35	0.3000	21.91	0.5892	0.1512	17	-0.96	050.51	0
050	Soluble K2O (21.5%)	0615	21.35	0.5000	21.91	0.5892	0.1512	17	-0.96	050.99	0
050	Soluble K2O (21.5%)	0543	21.51	0.1950	21.91	0.5892	0.1512	17	-0.69	050.52	0
050	Soluble K2O (21.5%)	0584	21.56	0.2200	21.91	0.5892	0.1512	17	-0.60	050.99	0
050	Soluble K2O (21.5%)	0602	21.85	0.1000	21.91	0.5892	0.1512	17	-0.11	050.00	0
050	Soluble K2O (21.5%)	0602	21.85	0.1000	21.91	0.5892	0.1512	17	-0.11	050.60	0
050	Soluble K2O (21.5%)	0602	21.85	0.1000	21.91	0.5892	0.1512	17	-0.11	050.99	0
050	Soluble K2O (21.5%)	0405	21.92	0.0100	21.91	0.5892	0.1512	17	0.00	050.00	0
050	Soluble K2O (21.5%)	0611	22.15	0.1000	21.91	0.5892	0.1512	17	0.40	050.99	0
050	Soluble K2O (21.5%)	0185	22.29	0.0700	21.91	0.5892	0.1512	17	0.63	050.32	0
050	Soluble K2O (21.5%)	0220	22.35	0.0600	21.91	0.5892	0.1512	17	0.74	050.00	0
050	Soluble K2O (21.5%)	0055	22.40	0.1150	21.91	0.5892	0.1512	17	0.83	050.00	0
050	Soluble K2O (21.5%)	0597	22.45	0.0000	21.91	0.5892	0.1512	17	0.91	050.00	0
050	Soluble K2O (21.5%)	0561	22.59	0.1500	21.91	0.5892	0.1512	17	1.14	050.00	0
050	Soluble K2O (21.5%)	0494	23.16‡	0.3100	21.91	0.5892	0.1512	17	2.11	050.52	0
050	Soluble K2O (21.5%)	0040	23.00	0.8000	21.91	0.5892	0.1512	17	1.85	050.30	1
101	Acid Soluble Ca (%)	0494	0.1043	0.0041				1		101.33	0
121	Acid Soluble Mg (10.8%)	0042	10.50	0.2500	11.14	0.4537	0.2022	12	-1.41	121.99	0
121	Acid Soluble Mg (10.8%)	0611	10.60	0.2000	11.14	0.4537	0.2022	12	-1.18	121.99	0
121	Acid Soluble Mg (10.8%)	0040	10.84	0.2700	11.14	0.4537	0.2022	12	-0.66	121.33	0
121	Acid Soluble Mg (10.8%)	0584	10.86	0.0900	11.14	0.4537	0.2022	12	-0.62	121.70	0
121	Acid Soluble Mg (10.8%)	0405	10.95	0.0700	11.14	0.4537	0.2022	12	-0.42	121.32	0
121	Acid Soluble Mg (10.8%)	0220	11.15	0.0100	11.14	0.4537	0.2022	12	0.02	121.99	0
121	Acid Soluble Mg (10.8%)	0561	11.20	0.2000	11.14	0.4537	0.2022	12	0.14	121.30	0
121	Acid Soluble Mg (10.8%)	0029	11.30	0.2600	11.14	0.4537	0.2022	12	0.36	121.00	0
121	Acid Soluble Mg (10.8%)	0055	11.35	0.6400	11.14	0.4537	0.2022	12	0.46	121.33	0
121	Acid Soluble Mg (10.8%)	0371	11.50	0.8000	11.14	0.4537	0.2022	12	0.80	121.99	0
121	Acid Soluble Mg (10.8%)	0494	11.64	0.1400	11.14	0.4537	0.2022	12	1.10	121.33	0
121	Acid Soluble Mg (10.8%)	0543	11.77	0.0530	11.14	0.4537	0.2022	12	1.39	121.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
143	Elemental S (%)	0405	0.0700	0.0000				2		143.00	0
143	Elemental S (%)	0584	22.04	0.1200				2		143.00	0
145	Sulfate S, HCl soluble (%)	0405	22.76	0.0000				2		145.00	0
145	Sulfate S, HCl soluble (%)	0561	23.18	0.0800				2		145.00	0
148	Total S (22%)	0611	21.60†	0.2000	22.85	1.074	0.1252	8	-1.06	148.99	0
148	Total S (22%)	0597	21.64†	0.1300	22.85	1.074	0.1252	8	-1.03	148.99	0
148	Total S (22%)	0029	22.32	0.1100	22.85	1.074	0.1252	8	-0.45	148.00	0
148	Total S (22%)	0405	22.83	0.0000	22.85	1.074	0.1252	8	-0.01	148.01	0
148	Total S (22%)	0055	23.05	0.0750	22.85	1.074	0.1252	8	0.18	148.01	0
148	Total S (22%)	0543	23.46	0.0720	22.85	1.074	0.1252	8	0.52	148.07	0
148	Total S (22%)	0040	23.65	0.3000	22.85	1.074	0.1252	8	0.68	148.07	0
148	Total S (22%)	0220	24.23‡	0.0200	22.85	1.074	0.1252	8	1.18	148.99	0
148	Total S (22%)	0494	23.77	0.7725	22.85	1.074	0.1252	8	0.79	148.07	1
151	Acid Soluble As (ppm)	0494	< 0.43					0		151.33	5
151	Acid Soluble As (ppm)	0220	< 0.5					0		151.32	5
151	Acid Soluble As (ppm)	0220	< 0.5					0		151.99	5
151	Acid Soluble As (ppm)	0405	< 3					0		151.32	5
181	Acid Soluble Cd (ppm)	0494	< 0.052					0		181.33	5
181	Acid Soluble Cd (ppm)	0220	< 0.1					0		181.32	5
181	Acid Soluble Cd (ppm)	0220	< 0.1					0		181.99	5
181	Acid Soluble Cd (ppm)	0405	< 1					0		181.32	5
190	Water Soluble Cl (1.5%)	0220	0.7050	0.0500	0.7633	0.0603	0.0285	6	-0.86	190.00	0
190	Water Soluble Cl (1.5%)	0055	0.7325	0.0250	0.7633	0.0603	0.0285	6	-0.45	190.00	0
190	Water Soluble Cl (1.5%)	0029	0.7335	0.0090	0.7633	0.0603	0.0285	6	-0.44	190.00	0
190	Water Soluble Cl (1.5%)	0611	0.7650	0.0300	0.7633	0.0603	0.0285	6	0.03	190.99	0
190	Water Soluble Cl (1.5%)	0029	0.7900	0.0000	0.7633	0.0603	0.0285	6	0.40	190.99	0
190	Water Soluble Cl (1.5%)	0561	0.9200‡	0.0000	0.7633	0.0603	0.0285	6	2.32	190.00	0
191	Acid Soluble Cr (ppm)	0220	0.4500	0.1000				2		191.99	0
191	Acid Soluble Cr (ppm)	0220	0.5000	0.0000				2		191.32	0
191	Acid Soluble Cr (ppm)	0494	< 0.28					2		191.33	5
191	Acid Soluble Cr (ppm)	0405	< 1					2		191.32	5
202	Acid Soluble Co (ppm)	0220	< 0.1					0		202.32	5
202	Acid Soluble Co (ppm)	0220	< 0.1					0		202.99	5
202	Acid Soluble Co (ppm)	0405	< 1					0		202.32	5
221	Acid Soluble Cu (%)	0405	< 0.0002					0		221.32	5
251	Acid Soluble Pb (ppm)	0220	< 0.7					0		251.32	5
251	Acid Soluble Pb (ppm)	0220	< 0.7					0		251.99	5
251	Acid Soluble Pb (ppm)	0405	< 4					0		251.32	5
281	Acid Soluble Hg (ppm)	0220	< 0.01					0		281.99	5
281	Acid Soluble Hg (ppm)	0405	< 2					0		281.30	5
289	Acid Soluble Mo (ppm)	0220	0.1250	0.0300	0.2475	0.1951	0.0203	3	-0.63	289.32	0
289	Acid Soluble Mo (ppm)	0220	0.1450	0.0300	0.2475	0.1951	0.0203	3	-0.53	289.99	0
289	Acid Soluble Mo (ppm)	0494	0.4725	0.0010	0.2475	0.1951	0.0203	3	1.15	289.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
289	Acid Soluble Mo (ppm)	0405	< 1		0.2475	0.1951	0.0203	3		289.32	5
291	Acid Soluble Ni (ppm)	0220	0.3000	0.0600				2		291.99	0
291	Acid Soluble Ni (ppm)	0220	0.3150	0.0100				2		291.32	0
291	Acid Soluble Ni (ppm)	0405	< 1					2		291.32	5
301	Acid Soluble Se (ppm)	0220	0.6000	0.0000				2		301.32	0
301	Acid Soluble Se (ppm)	0220	0.6000	0.2000				2		301.99	0
301	Acid Soluble Se (ppm)	0405	< 10					2		301.32	5
311	Sodium (%)	0494	0.4852	0.0012				2		311.33	0
311	Sodium (%)	0611	0.8950	0.0100				2		311.99	0
321	Acid Soluble Zn (%)	0405	< 0.0003					0		321.32	5

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. Identical duplicates not included in calculation of Rob R-bar. Your offset values are higher (±) or lower (†) than the Robust Analyte value ± Investigational Allowance. Analyte 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.