

Analyte PT For All Labs

### Magruder Fertilizer Proficiency Testing Program

# Analytes: 21

Sample # 230451

Potassium Select PT Scheme

# Labs Reporting: 9

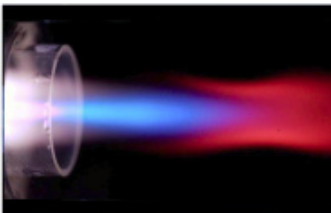
Potash

### Statistical Summary

Issue Date : 05/31/2023

Analyte Code	Analyte Sample # 230451	# 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
020	Total P2O5 (%)	1		0.0100									
050	Soluble K2O (60%)	10	9	61.77	3.091	60.56	1.7856	0.4878	0.2033	0.81%	0.64	0.5902	1.29%
060	Water (Free) (%)	2	2	0.1475	0.1025								
101	Acid Soluble Ca (%)	1		0.0784									
121	Acid Soluble Mg (%)	1		0.0412									
131	Water Soluble Mg (%)	1		0.0121									
148	Total S (%)	2	2	0.0353	0.0006								
151	Acid Soluble As (ppm)	3	2	1.333	1.443	0.5000		0.0000	0.0000	0.00%		0.0000	17.76%
181	Acid Soluble Cd (ppm)	3	2	0.3600	0.5543	0.0400		0.0000	0.0000	0.00%		0.0000	22.00%
190	Water Soluble Cl (%)	4	4	45.91	2.721	45.91	1.0000	2.721	1.701	5.93%	6.34	0.5460	1.48%
191	Acid Soluble Cr (ppm)	2	1	2.650	2.333								
202	Acid Soluble Co (ppm)	3	2	0.4050	0.5153	0.1075	1.0323	0.0106	0.0094	9.87%	0.02	0.0100	22.00%
221	Acid Soluble Cu (%)	1		2.000									
241	Acid Soluble Fe (%)	1		0.0982									
251	Acid Soluble Pb (ppm)	3	2	1.850	1.862	0.7750		0.0354	0.0313	4.56%		0.2500	16.62%
281	Acid Soluble Hg (ppm)	2	0	1.005	1.407								
289	Acid Soluble Mo (ppm)	2	0	0.6500	0.4950								
291	Acid Soluble Ni (ppm)	1		1.000									
301	Acid Soluble Se (ppm)	3	2	4.350	4.895	1.525		0.1768	0.1563	11.59%		0.2500	15.01%
311	Sodium (%)	3	3	1.146	0.1370	1.146	0.1196	0.1370	0.0989	11.95%	2.67	0.0429	3.92%
321	Acid Soluble Zn (%)	1		3.000									

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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Sample # 230451

Potassium Select PT Scheme

# Labs Reporting: 9

Potash

Lab Values

Issue Date : 05/31/2023

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
020	Total P2O5 (%)	0611	< 0.01					0		020.50	5
050	Soluble K2O (60%)	0494	59.52	1.090	60.56	0.4878	0.5902	9	-1.97	050.00	0
050	Soluble K2O (60%)	0494	60.09	0.8100	60.56	0.4878	0.5902	9	-0.89	050.52	0
050	Soluble K2O (60%)	0615	60.40	1.200	60.56	0.4878	0.5902	9	-0.30	050.99	0
050	Soluble K2O (60%)	0590	60.51	0.0200	60.56	0.4878	0.5902	9	-0.09	050.99	0
050	Soluble K2O (60%)	0611	60.60	0.2000	60.56	0.4878	0.5902	9	0.08	050.99	0
050	Soluble K2O (60%)	0589	60.67	0.0800	60.56	0.4878	0.5902	9	0.21	050.00	0
050	Soluble K2O (60%)	0405	60.72	0.0500	60.56	0.4878	0.5902	9	0.30	050.00	0
050	Soluble K2O (60%)	0220	60.92	0.1000	60.56	0.4878	0.5902	9	0.69	050.00	0
050	Soluble K2O (60%)	0086	64.62‡	1.762	60.56	0.4878	0.5902	9	7.69	050.50	0
050	Soluble K2O (60%)	0042	69.65‡	4.100	60.56	0.4878	0.5902	9	17.21	050.99	1
060	Water (Free) (%)	0405	0.0750	0.0020				2		060.99	0
060	Water (Free) (%)	0220	0.2200	0.0400				2		060.30	0
101	Acid Soluble Ca (%)	0494	0.0784	0.0080				1		101.33	0
121	Acid Soluble Mg (%)	0494	0.0412	0.0021				1		121.33	0
131	Water Soluble Mg (%)	0611	0.0121	0.0000				1		131.30	0
148	Total S (%)	0494	0.0349	0.0035				2		148.07	0
148	Total S (%)	0611	0.0357	0.0000				2		148.99	0
151	Acid Soluble As (ppm)	0220	0.5000	0.0000				2		151.32	0
151	Acid Soluble As (ppm)	0220	0.5000	0.0000				2		151.99	0
151	Acid Soluble As (ppm)	0405	< 3					2		151.32	5
181	Acid Soluble Cd (ppm)	0220	0.0400	0.0000				2		181.32	0
181	Acid Soluble Cd (ppm)	0220	0.0400	0.0000				2		181.99	0
181	Acid Soluble Cd (ppm)	0405	< 1					2		181.32	5
190	Water Soluble Cl (%)	0494	41.83	1.544	45.91	2.721	0.5460	4	-1.50	190.00	0
190	Water Soluble Cl (%)	0220	47.03	0.0900	45.91	2.721	0.5460	4	0.41	190.00	0
190	Water Soluble Cl (%)	0405	47.37	0.0040	45.91	2.721	0.5460	4	0.54	190.00	0
190	Water Soluble Cl (%)	0611	47.40	0.0000	45.91	2.721	0.5460	4	0.55	190.99	0
191	Acid Soluble Cr (ppm)	0220	4.300	2.000				1		191.32	0
191	Acid Soluble Cr (ppm)	0405	< 1					1		191.32	5
202	Acid Soluble Co (ppm)	0220	0.1000	0.0000				2		202.32	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
202	Acid Soluble Co (ppm)	0220	0.1150	0.0100				2		202.99	0
202	Acid Soluble Co (ppm)	0405	< 1					2		202.32	5
221	Acid Soluble Cu (%)	0405	< 2					0		221.32	5
241	Acid Soluble Fe (%)	0494	0.0982	0.0027				1		241.33	0
251	Acid Soluble Pb (ppm)	0220	0.7500	0.3000				2		251.99	0
251	Acid Soluble Pb (ppm)	0220	0.8000	0.2000				2		251.32	0
251	Acid Soluble Pb (ppm)	0405	< 4					2		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	< 0.3					0		289.99	5
289	Acid Soluble Mo (ppm)	0405	< 1					0		289.32	5
291	Acid Soluble Ni (ppm)	0405	< 1					0		291.32	5
301	Acid Soluble Se (ppm)	0220	1.400	0.2000				2		301.32	0
301	Acid Soluble Se (ppm)	0220	1.650	0.3000				2		301.99	0
301	Acid Soluble Se (ppm)	0405	< 10					2		301.32	5
311	Sodium (%)	0611	0.9900	0.0000	1.146	0.1370	0.0429	3	-1.14	311.99	0
311	Sodium (%)	0494	1.203	0.0798	1.146	0.1370	0.0429	3	0.41	311.33	0
311	Sodium (%)	0405	1.246	0.0060	1.146	0.1370	0.0429	3	0.73	311.00	0
321	Acid Soluble Zn (%)	0405	< 3					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. 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.