



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 25

Sample # 250631

Nitrogen Select PT Scheme

Labs Reporting: 9

32-0-0 UAN

Statistical Summary

Issue Date : 07/31/2025

Method Code	Analyte & Method Sample # 250631	# 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
001.99	Ammoniacal N, Other (%)	3	3	8.100	0.7108	8.100		0.7108	0.5130	8.78%		0.0500	2.92%
002.99	Nitrate N, Other (%)	1		7.410									
005.99	Urea N, Other (%)	1		17.57									
007.20	Urea, HPLC,85%acetonitrilemobilephase (%)	1		17.83									
008.99	Biuret, Other (%)	1		0.7250									
010.11	Total N, Modified Comprehensive (32%)	1		30.70									
010.60	Total N, Combustion (32%)	7	7	32.28	0.6962	32.45	0.8800	0.3240	0.1531	1.00%	0.86	0.2407	1.76%
010.99	Total N, Other (32%)	1		32.40									
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	1		0.5000									
151.99	Acid Soluble As, Other (ppm)	1		0.5000									
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	1		0.1000									
181.99	Acid Soluble Cd, Other (ppm)	1		0.1000									
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	1		0.3000									
191.99	Acid Soluble Cr, Other (ppm)	1		0.4500									
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	1		0.1000									
202.99	Acid Soluble Co, Other (ppm)	1		0.1000									
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	1		0.3000									
251.99	Acid Soluble Pb, Other (ppm)	1		0.4000									
281.99	Acid Soluble Hg, Other (ppm)	1		0.0100									
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	1		1.800									
289.99	Acid Soluble Mo, Other (ppm)	1		1.950									
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	1		0.2000									
291.99	Acid Soluble Ni, Other (ppm)	1		0.3500									
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	1		0.3000									
301.99	Acid Soluble Se, Other (ppm)	1		0.4000									

The Method IA Ratio = $2.33 \times \text{Robust SD} / \text{IA at the Method Assigned Value}$. 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.

Horwitz %RSD
Average Range (R-bar)
Method IA Ratio
Robust % RSD
Robust Uncertainty (U)
Robust sd
IA at Method Value
Assigned Value Robust Mean
Raw SD
Raw Mean
Tests in Robust Calculations
Tests Submitted
Analyte & Method Sample # 250631
Method Code



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Magruder Fertilizer Proficiency Testing Program

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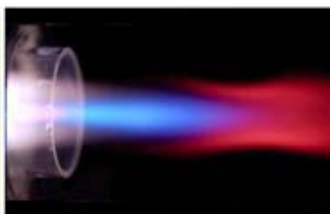
32-0-0 UAN

Method Precision Report

Issue Date : 07/31/2025

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
010.60	Total N, Combustion (32%)	7	6	32.53	0.2070	0.1569	0.1909	0.2471	0.48%	0.59%	0.76%	1.294

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



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Methods: 25

Sample # 250631

Nitrogen Select PT Scheme

Labs Reporting: 9

32-0-0 UAN

Lab Values

Issue Date : 07/31/2025

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001.99	Ammoniacal N, Other (%)	0594	7.410	0.0000	8.100	0.7108	0.0500	3	-0.97		0
001.99	Ammoniacal N, Other (%)	0586	8.060	0.0400	8.100	0.7108	0.0500	3	-0.06		0
001.99	Ammoniacal N, Other (%)	0220	8.830	0.0600	8.100	0.7108	0.0500	3	1.03		0
002.99	Nitrate N, Other (%)	0594	7.410	0.0000				1			0
005.99	Urea N, Other (%)	0594	17.57	0.0000				1			0
007.20	Urea, HPLC,85%acetonitrilemobilephase (%)	0220	17.83	0.5000				1			0
008.99	Biuret, Other (%)	0220	0.7250	0.0700				1			0
010.11	Total N, Modified Comprehensive (32%)	0309	30.70	0.0900				1			0
010.60	Total N, Combustion (32%)	0494	30.76	0.5000	32.45	0.3240	0.2407	7	-4.72	Low	0
010.60	Total N, Combustion (32%)	0220	32.22	0.0400	32.45	0.3240	0.2407	7	-0.65	OK	0
010.60	Total N, Combustion (32%)	0561	32.44	0.0300	32.45	0.3240	0.2407	7	-0.05	OK	0
010.60	Total N, Combustion (32%)	0586	32.52	0.2800	32.45	0.3240	0.2407	7	0.19	OK	0
010.60	Total N, Combustion (32%)	0086	32.57	0.1720	32.45	0.3240	0.2407	7	0.34	OK	0
010.60	Total N, Combustion (32%)	0131	32.60	0.5630	32.45	0.3240	0.2407	7	0.41	OK	0
010.60	Total N, Combustion (32%)	0040	32.85	0.1000	32.45	0.3240	0.2407	7	1.11	OK	0
010.99	Total N, Other (32%)	0594	32.40	0.0000				1			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	< 0.5					0			5
151.99	Acid Soluble As, Other (ppm)	0220	< 0.5					0			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
181.99	Acid Soluble Cd, Other (ppm)	0220	< 0.1					0			5
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	0.3000	0.0000				1			0
191.99	Acid Soluble Cr, Other (ppm)	0220	0.4500	0.1000				1			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
202.99	Acid Soluble Co, Other (ppm)	0220	< 0.1					0			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	0.3000	0.2000				1			0
251.99	Acid Soluble Pb, Other (ppm)	0220	0.4000	0.0000				1			0
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					0			5
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	1.800	0.0000				1			0
289.99	Acid Soluble Mo, Other (ppm)	0220	1.950	0.3000				1			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	0.2000	0.2000				1			0
291.99	Acid Soluble Ni, Other (ppm)	0220	0.3500	0.1000				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	< 0.3					0			5
301.99	Acid Soluble Se, Other (ppm)	0220	0.4000	0.0000				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. Identical duplicates not included in calculation of Rob R-bar. IA Status describes where your result is relative to the Assigned Value ± 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