

Method PT For All Labs

### Magruder Fertilizer Proficiency Testing Program

# Methods: 16

Sample # 220631

Nitrogen Select PT Scheme

# Labs Reporting: 24

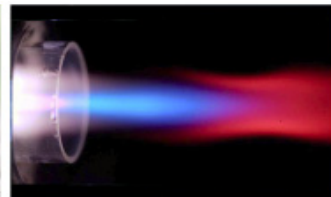
32-0-0 UAN Solution

### Statistical Summary

Issue Date : 07/31/2022

Method Code	Analyte & Method Sample # 220631	# 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 (%)	2	2	8.583	0.0248								
001.99	Ammoniacal N, Other (%)	8	8	12.96	13.30	8.443		0.8522	0.3766	10.09%		0.0125	2.90%
002.20	Nitrate N, Jones Modified (%)	1		8.685									
002.99	Nitrate N, Other (%)	7	7	11.50	9.030	8.241		0.6115	0.2889	7.42%		0.0629	2.91%
005.00	Urea N, Urease (as N) (%)	1		16.03									
005.99	Urea N, Other (%)	7	7	18.45	6.918	16.10		1.000	0.4727	6.22%		0.0357	2.49%
006.10	Biuret N, Spectrophotometric (as N) (%)	1		1.015									
007.99	Urea, Other (%)	1		33.35									
008.00	Biuret, AA (as Biuret) (%)	1		0.4550									
008.10	Biuret, Spectrophotometric (as Biuret) (%)	1		0.7650									
008.99	Biuret, Other (%)	1		0.1500									
009.99	Ammoniacal Plus Nitrate N, Other (%)	1		16.09									
010.12	Total N, Salicylic (32%)	1		31.45									
010.17	Total N, Comprehensive (32%)	1		31.98									
010.60	Total N, Combustion (32%)	15	14	32.17	0.5483	32.14	0.8800	0.3859	0.1289	1.20%	1.02	0.1424	1.76%
010.99	Total N, Other (32%)	7	7	31.75	0.8487	32.01	0.8800	0.1567	0.0740	0.49%	0.41	0.0357	1.77%

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. The Horwitz %RSD is calculated using the Thompson Modification, Analyst,2000,125,385-386.



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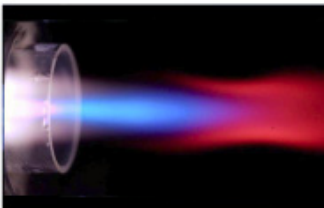
32-0-0 UAN Solution

### Method Precision Report

Issue Date : 07/31/2022

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
001.99	Ammoniacal N, Other (%)	8	7	8.261	0.5896	0.5896	0.0104	0.5897	7.14%	0.13%	7.14%	56.97
002.99	Nitrate N, Other (%)	7	6	8.088	0.3907	0.3870	0.0758	0.3943	4.78%	0.94%	4.88%	5.200
005.99	Urea N, Other (%)	7	6	15.85	0.6392	0.6387	0.0344	0.6396	4.03%	0.22%	4.04%	18.59
010.60	Total N, Combustion (32%)	15	12	32.05	0.4306	0.4244	0.1029	0.4367	1.32%	0.32%	1.36%	4.246
010.99	Total N, Other (32%)	7	6	32.07	0.1464	0.1448	0.0307	0.1480	0.45%	0.10%	0.46%	4.823

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



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### Magruder Fertilizer Proficiency Testing Program

# Methods: 16

Sample # 220631

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# Labs Reporting: 24

32-0-0 UAN Solution

Lab Values

Issue Date : 07/31/2022

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0585	8.565	0.2700				2			0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0498	8.600	1.000				2			0
001.99	Ammoniacal N, Other (%)	0594	7.840	0.0000	8.443	0.8522	0.0125	8	-0.65	NA	0
001.99	Ammoniacal N, Other (%)	0405	7.945	0.0100	8.443	0.8522	0.0125	8	-0.53	NA	0
001.99	Ammoniacal N, Other (%)	0371	8.000	0.0000	8.443	0.8522	0.0125	8	-0.48	NA	0
001.99	Ammoniacal N, Other (%)	0027	8.030	0.0000	8.443	0.8522	0.0125	8	-0.44	NA	0
001.99	Ammoniacal N, Other (%)	0513	8.045	0.0300	8.443	0.8522	0.0125	8	-0.43	NA	0
001.99	Ammoniacal N, Other (%)	0585	8.435	0.0100	8.443	0.8522	0.0125	8	-0.01	NA	0
001.99	Ammoniacal N, Other (%)	0220	9.530	0.0200	8.443	0.8522	0.0125	8	1.17	NA	0
001.99	Ammoniacal N, Other (%)	0599	45.86	0.0300	8.443	0.8522	0.0125	8	40.15	NA	0
002.20	Nitrate N, Jones Modified (%)	0585	8.685	0.1300				1			0
002.99	Nitrate N, Other (%)	0027	7.610	0.1600	8.241	0.6115	0.0629	7	-0.93	NA	0
002.99	Nitrate N, Other (%)	0594	7.840	0.0000	8.241	0.6115	0.0629	7	-0.59	NA	0
002.99	Nitrate N, Other (%)	0371	8.000	0.0000	8.241	0.6115	0.0629	7	-0.36	NA	0
002.99	Nitrate N, Other (%)	0513	8.045	0.0300	8.241	0.6115	0.0629	7	-0.29	NA	0
002.99	Nitrate N, Other (%)	0498	8.300	0.2000	8.241	0.6115	0.0629	7	0.09	NA	0
002.99	Nitrate N, Other (%)	0585	8.735	0.0500	8.241	0.6115	0.0629	7	0.73	NA	0
002.99	Nitrate N, Other (%)	0599	31.96	0.0000	8.241	0.6115	0.0629	7	35.07	NA	0
005.00	Urea N, Urease (as N) (%)	0220	16.03	0.0500				1			0
005.99	Urea N, Other (%)	0585	14.71	0.0400	16.10	1.000	0.0357	7	-1.25	NA	0
005.99	Urea N, Other (%)	0513	15.56	0.0400	16.10	1.000	0.0357	7	-0.49	NA	0
005.99	Urea N, Other (%)	0027	15.91	0.0300	16.10	1.000	0.0357	7	-0.17	NA	0
005.99	Urea N, Other (%)	0405	16.14	0.0100	16.10	1.000	0.0357	7	0.03	NA	0
005.99	Urea N, Other (%)	0371	16.35	0.1000	16.10	1.000	0.0357	7	0.23	NA	0
005.99	Urea N, Other (%)	0594	16.42	0.0000	16.10	1.000	0.0357	7	0.29	NA	0
005.99	Urea N, Other (%)	0599	34.09	0.0300	16.10	1.000	0.0357	7	16.26	NA	0
006.10	Biuret N, Spectrophotometric (as N) (%)	0585	1.015	0.0100				1			0
007.99	Urea, Other (%)	0513	33.35	0.0900				1			0
008.00	Biuret, AA (as Biuret) (%)	0498	0.4550	0.0300				1			0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0450	0.7650	0.0100				1			0
008.99	Biuret, Other (%)	0220	0.1500	0.0400				1			0
009.99	Ammoniacal Plus Nitrate N, Other (%)	0513	16.09	0.0600				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.12	Total N, Salicylic (32%)	0498	31.45	0.1000				1			0
010.17	Total N, Comprehensive (32%)	0585	31.98	0.1400				1			0
010.60	Total N, Combustion (32%)	0042	31.00	0.2000	32.14	0.3859	0.1424	14	-2.96	Low	0
010.60	Total N, Combustion (32%)	0421	31.71	0.2400	32.14	0.3859	0.1424	14	-1.12	OK	0
010.60	Total N, Combustion (32%)	0025	31.82	0.0700	32.14	0.3859	0.1424	14	-0.85	OK	0
010.60	Total N, Combustion (32%)	0450	31.95	0.0900	32.14	0.3859	0.1424	14	-0.51	OK	0
010.60	Total N, Combustion (32%)	0356	31.98	0.1030	32.14	0.3859	0.1424	14	-0.43	OK	0
010.60	Total N, Combustion (32%)	0405	32.03	0.0000	32.14	0.3859	0.1424	14	-0.29	OK	0
010.60	Total N, Combustion (32%)	0027	32.05	0.5000	32.14	0.3859	0.1424	14	-0.24	OK	0
010.60	Total N, Combustion (32%)	0220	32.13	0.0500	32.14	0.3859	0.1424	14	-0.04	OK	0
010.60	Total N, Combustion (32%)	0073	32.21	0.1000	32.14	0.3859	0.1424	14	0.18	OK	0
010.60	Total N, Combustion (32%)	0579	32.31	0.0200	32.14	0.3859	0.1424	14	0.42	OK	0
010.60	Total N, Combustion (32%)	0593	32.44	0.0300	32.14	0.3859	0.1424	14	0.76	OK	0
010.60	Total N, Combustion (32%)	0040	32.55	0.1000	32.14	0.3859	0.1424	14	1.06	OK	0
010.60	Total N, Combustion (32%)	0586	32.56	0.3300	32.14	0.3859	0.1424	14	1.07	OK	0
010.60	Total N, Combustion (32%)	0561	33.58	0.1600	32.14	0.3859	0.1424	14	3.73	High	0
010.60	Total N, Combustion (32%)	0494	32.26	1.110	32.14	0.3859	0.1424	14	0.29	OK	1
010.99	Total N, Other (32%)	0493	29.85	0.1000	32.01	0.1567	0.0357	7	-12.47	Low	0
010.99	Total N, Other (32%)	0585	31.97	0.0200	32.01	0.1567	0.0357	7	-0.24	OK	0
010.99	Total N, Other (32%)	0595	31.97	0.0000	32.01	0.1567	0.0357	7	-0.24	OK	0
010.99	Total N, Other (32%)	0576	32.00	0.0000	32.01	0.1567	0.0357	7	-0.06	OK	0
010.99	Total N, Other (32%)	0513	32.02	0.0300	32.01	0.1567	0.0357	7	0.02	OK	0
010.99	Total N, Other (32%)	0594	32.10	0.0000	32.01	0.1567	0.0357	7	0.51	OK	0
010.99	Total N, Other (32%)	0371	32.35	0.1000	32.01	0.1567	0.0357	7	1.96	OK	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 ± 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.