

- Pass 1 Results for 80 Labs - - Pass 2 Results for 77 Labs -

Method	AOAC Ref.	Method Code	No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Ammoniacal Nitrogen, MgO Distillation	920.03	001.10	2	22.98	26.23	0.09	2	22.98	26.23	0.09
Ammoniacal Nitrogen, Other		001.99	2	2.98	3.44	0.00	2	2.98	3.44	0.00
Method Group 001.XX PCT			4	12.98	20.35	0.05	3	2.08	3.02	0.01
Nitrogen From Urea, Urease (as N)	959.03	005.00	4	45.74	0.38	0.10	4	45.74	0.38	0.10
Nitrogen From Urea, Other		005.99	9	45.60	1.24	0.67	8	45.73	0.98	0.20
Method Group 005.XX PCT			13	45.64	1.05	0.49	12	45.73	0.81	0.17
Nitrogen From Biuret, Spec. (as N)	960.04	006.10	2	0.88	0.01	0.01	2	0.88	0.01	0.01
Percent Urea, Urease (as Urea)	959.03	007.00	1	46.13	0.02	0.03	1	46.13	0.02	0.03
Percent Biuret, Spec (as Biuret)	960.04	008.10	10	0.90	0.16	0.03	9	0.87	0.14	0.02
Total Nitrogen, Modified Comprehensive	978.02	010.11	7	46.19	0.15	0.05	6	46.18	0.15	0.02
Total Nitrogen, Salicylic	955.04D	010.12	3	46.21	0.20	0.12	3	46.21	0.20	0.12
Total Nitrogen, Combustion		010.60	61	46.32	0.49	0.17	58	46.32	0.44	0.15
Total Nitrogen, Other		010.99	3	45.59	0.48	0.08	3	45.59	0.48	0.08
Method Group 010.XX PCT			74	46.27	0.48	0.15	71	46.27	0.44	0.14
Total Phosphate, Spectrometric	958.01	020.20	2	23.19	26.77	0.08	2	23.19	26.77	0.08
Total Phosphate, ICP		020.50	1	0.01	0.00	0.01	1	0.01	0.00	0.01
Method Group 020.XX PCT			3	15.46	23.95	0.05	3	15.46	23.95	0.05
Dir Available Phosphate, ICP		041.50	2	0.00	0.00	0.00	2	0.00	0.00	0.00
Water Soluble Phosphate, Spectrometric	970.01	048.20	1	0.00	0.00	0.00	1	0.00	0.00	0.00
Soluble Potash, ICP (Oxalate)		050.50	2	0.01	0.00	0.00	2	0.01	0.00	0.00
Soluble Potash, ICP (Citrate)		050.51	1	0.28	0.08	0.11	1	0.28	0.08	0.11
Soluble Potash, Other		050.99	1	0.00	0.00	0.00	1	0.00	0.00	0.00
Method Group 050.XX PCT			4	0.08	0.13	0.03	3	0.01	0.01	0.00
Free Water, Vacuum Oven	965.08B	060.00	4	0.12	0.08	0.02	4	0.12	0.08	0.02
Free Water, Karl Fischer	972.01	060.20	2	0.13	0.05	0.01	2	0.13	0.05	0.01
Free Water, Other		060.99	5	0.31	0.27	0.01	5	0.31	0.27	0.01
Method Group 060.XX PCT			11	0.21	0.21	0.01	9	0.14	0.06	0.01
Acid Soluble Calcium, ICP		101.30	4	0.08	0.10	0.01	4	0.08	0.10	0.01
Acid Soluble Magnesium, ICP		121.30	3	0.02	0.02	0.01	3	0.02	0.02	0.01
Sulfur, Other		144.99	2	0.02	0.02	0.01	2	0.02	0.02	0.01
Acid Soluble Boron, Other		165.99	1	0.000	0.000	0.000	1	0.000	0.000	0.000
Acid Soluble Copper, ICP		221.30	2	0.0001	0.0001	0.0001	2	0.0001	0.0001	0.0001
Acid Soluble Iron, ICP		241.30	2	0.00	0.00	0.00	2	0.00	0.00	0.00
Acid Soluble Manganese, ICP	972.02a	261.30	2	0.000	0.000	0.000	2	0.000	0.000	0.000
Sodium, Other		311.99	1	0.06	0.00	0.00	1	0.06	0.00	0.00
Acid Soluble Zinc, ICP		321.30	3	0.000	0.000	0.000	3	0.000	0.000	0.000

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 001.10 PCT			Meth: 005.99 PCT			Meth: 008.10 PCT			Meth: 010.60 PCT			Meth: 010.60 PCT		
Ammoniacal Nitrogen			Nitrogen From Urea			Percent Biuret			Total Nitrogen			Total Nitrogen		
<u>MgO Distillation</u>			<u>Other</u>			<u>Spec (as Biuret)</u>			<u>Combustion</u>			<u>Combustion</u>		
415	45.70	.87	029	44.78	-.98	486	1.12 R	1.76	422	47.54	2.79	324	46.25	-.38
Avg	22.98		027	44.60	-1.20	450	1.03	1.07	475	47.29 R	2.43	041	46.15	-.40
232	0.26	-.87	475	44.31	-1.45	444	0.98	.72	330	47.15	1.93	488	46.15	-.40
Meth: 001.99 PCT			Meth: 005.XX PCT			Meth: 010.11 PCT			Meth: 010.12 PCT			Meth: 010.99 PCT		
Ammoniacal Nitrogen			Nitrogen From Urea			Total Nitrogen			Total Nitrogen			Total Nitrogen		
<u>Other</u>			<u>Nitrogen From Urea</u>			<u>Modified Comprehensi</u>			<u>Salicylic</u>			<u>Other</u>		
489	5.97	.87	300	46.80	1.31	211	46.40	1.51	028	46.44	.28	030	45.94	.72
Avg	2.98		230	46.60	1.07	114	46.29 R	1.02	354	46.41	.28	460	45.86	.58
420	0.00	-.87	230	46.60	1.07	371	46.26	.61	Avg	46.32		420	44.98	-1.28
Meth: 001.XX PCT			Meth: 006.10 PCT			Meth: 010.60 PCT			Meth: 010.60 PCT			Meth: 010.60 PCT		
Ammoniacal Nitrogen			Nitrogen From Biuret			Total Nitrogen			Total Nitrogen			Total Nitrogen		
415	45.70 R	14.47	<u>Spec</u>			<u>Combustion</u>			<u>Combustion</u>			<u>Combustion</u>		
489	5.97	1.29	481	0.89	.72	185	46.41	1.26	037	46.18	-.32	037	46.18	-.32
Avg	2.08		Avg	0.88		254	46.21	.00	292	46.18	-.33	292	46.18	-.33
232	0.26	-.60	456	0.88	-.99	Avg	46.21		377	46.29	-.08	377	46.29	-.08
420	0.00	-.69	029	44.78	-1.17	481	46.02	-.96	049	46.29	-.13	049	46.29	-.13
Meth: 005.00 PCT			Meth: 007.00 PCT			Meth: 010.60 PCT			Meth: 010.60 PCT			Meth: 010.60 PCT		
Nitrogen From Urea			Percent Urea			Total Nitrogen			Total Nitrogen			Total Nitrogen		
<u>Urease (as N)</u>			<u>Urease (as Urea)</u>			<u>Combustion</u>			<u>Combustion</u>			<u>Combustion</u>		
368	46.07	.91	486	46.13	.71	479	47.74 s	3.26	233	46.31	-.17	233	46.31	-.17
481	46.01	.72							055	46.27	-.19	055	46.27	-.19
Avg	45.74								291	46.22	-.21	291	46.22	-.21
444	45.67	-.19							234	46.22	-.26	234	46.22	-.26
231	45.20	-1.45							037	46.18	-.32	037	46.18	-.32
Meth: 005.99 PCT														
Nitrogen From Urea														
<u>Other</u>														
300	46.80	1.10												
230	46.60	.90												
309	46.41	.71												
397	46.34	.64												
444	46.00	.29												
Avg	45.73													

* X=Excluded from lab performance S/s=Screened Outlier R=Duplicate Range too large A=Analysis beyond 3-s limits

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 010.XX PCT			Meth: 010.XX PCT			Meth: 010.XX PCT			Meth: 050.50 PCT			Meth: 060.99 PCT		
<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Soluble Potash</u>			<u>Free Water</u>		
479	47.74 s	3.38	254	46.21	-.14	484	43.57 s	-6.61	<u>ICP (Oxalate)</u>			<u>Other</u>		
422	47.54	2.91	456	46.21	-.15	Meth: 020.20 PCT			354	0.01	-.78	443	8.99 s	32.63
475	47.29 R	2.54	055	46.27	-.16	<u>Total Phosphate</u>			Meth: 050.51 PCT			481	0.82	1.89
330	47.15	2.05	234	46.22	-.18	<u>Spectrometric</u>			<u>Soluble Potash</u>			Avg	0.31	
073	46.93 R	1.71	037	46.18	-.22	232	46.38	.87	<u>ICP (Citrate)</u>			444	0.22	-.36
102	47.00	1.69	090	46.18	-.22	Avg	23.19		483	0.28	-.71	450	0.20	-.43
117	46.95	1.56	292	46.18	-.22	420	0.00	-.87	Meth: 050.99 PCT			456	0.18	-.51
177	46.92	1.49	041	46.15	-.29	Meth: 020.50 PCT			<u>Soluble Potash</u>			090	0.16	-.60
406	46.83	1.36	488	46.15	-.30	<u>Total Phosphate</u>			<u>Other</u>			Meth: 060.XX PCT		
368	46.85	1.35	486	46.13	-.32	<u>ICP</u>			325	0.00	.00	<u>Free Water</u>		
096	46.84	1.31	324	46.25	-.35	483	0.01	.71	Meth: 050.XX PCT			443	8.99 s	137.13
230	46.80	1.22	444	46.18	-.42	Meth: 020.XX PCT			<u>Soluble Potash</u>			481	0.82 A	10.42
451	46.75	1.15	157	46.15	-.44	<u>Total Phosphate</u>			483	0.28 R	50.12	444	0.22	1.17
450	46.70	1.01	057	46.23	-.45	232	46.38	1.29	420	0.01	.78	450	0.20	.86
027	46.63	.99	470	46.06	-.49	Avg	15.46		354	0.01	.51	096	0.19 R	.84
086	46.69	.98	035	46.09	-.55	483	0.01	-.65	Avg	0.01		456	0.18	.52
136	46.68	.93	231	46.02	-.58	420	0.00	-.65	325	0.00	-1.28	371	0.18	.48
325	46.65	.88	481	46.02	-.59	Meth: 041.50 PCT			Meth: 060.00 PCT			090	0.16	.18
351	46.61	.80	405	45.99	-.66	<u>Dir Available Phosph</u>			<u>Free Water</u>			416	0.15	.17
360	46.60	.78	421	45.98	-.68	<u>ICP</u>			<u>Vacuum Oven</u>			Avg	0.14	
007	46.45	.71	420	45.97	-.69	325	0.00	.00	096	0.19	.98	489	0.14	-.17
040	46.55	.65	416	45.96	-.71	354	0.00	.00	416	0.15	.43	484	0.08	-.92
131	46.47	.51	030	45.94	-.77	Avg	0.00		489	0.14	.21	007	0.00	-2.23
185	46.41	.49	042	45.91	-.84	Meth: 048.20 PCT			Meth: 060.20 PCT			Meth: 101.30 PCT		
390	46.48	.49	022	45.90	-.88	<u>Water Soluble Phosph</u>			<u>Free Water</u>			<u>Acid Soluble Calcium</u>		
247	46.43	.41	443	45.90	-.88	<u>Spectrometric</u>			<u>Vacuum Oven</u>			<u>ICP</u>		
489	46.45	.40	460	45.86	-.94	420	0.00	.00	007	0.00	-1.52	483	0.24	1.52
028	46.44	.39	029	45.88	-.97	Meth: 050.50 PCT			Meth: 060.20 PCT			354	0.08	.06
354	46.41	.37	483	45.84	-1.01	<u>Soluble Potash</u>			<u>Free Water</u>			Avg	0.08	
043	46.32	.36	260	45.79	-1.10	<u>ICP (Oxalate)</u>			<u>Karl Fischer</u>			009	0.00	-.75
211	46.40	.30	095	45.74	-1.23	420	0.01	.94	371	0.18	.87	420	0.00	-.79
114	46.29	.23	023	45.74	-1.30	Avg	0.01		Avg	0.13		Meth: 121.30 PCT		
233	46.31	.19	482	45.70	-1.31	420	0.01	.94	484	0.08	-.87	<u>Acid Soluble Magnesi</u>		
049	46.29	.12	402	45.69	-1.34	Avg	0.01		Meth: 121.30 PCT			<u>ICP</u>		
377	46.29	.06	472	45.60	-1.55	Avg	0.01		<u>Free Water</u>			483	0.04	1.32
Avg	46.27		009	45.35	-2.12	Meth: 050.50 PCT			<u>Karl Fischer</u>			Meth: 121.30 PCT		
291	46.22	-.10	420	44.98	-2.97	<u>Soluble Potash</u>			<u>Free Water</u>			<u>Acid Soluble Magnesi</u>		
371	46.26	-.11	389	44.85 A	-3.26	<u>ICP (Oxalate)</u>			<u>Karl Fischer</u>			<u>ICP</u>		
						420	0.01	.94	371	0.18	.87	Meth: 121.30 PCT		
						Avg	0.01		Avg	0.13		<u>Acid Soluble Magnesi</u>		
									484	0.08	-.87	<u>ICP</u>		
												483	0.04	1.32

* X=Excluded from lab performance S/s=Screened Outlier R=Duplicate Range too large A=Analysis beyond 3-s limits

Laboratory Averages & Accuracy Indexes

Lab Average* Index

Meth: 121.30 PCT
 Acid Soluble Magnesi
ICP
 Avg 0.02
 354 0.01 -.33
 420 0.00 -.80

Meth: 144.99 PCT
 Sulfur
Other
 354 0.04 .81
 Avg 0.02
 483 0.01 -.92

Meth: 165.99 PCT
 Acid Soluble Boron
Other
 354 0.000 .00

Meth: 221.30 PCT
 Acid Soluble Copper
ICP
 420 0.0002 .94
 Avg 0.0001
 354 0.0000 -.78

Meth: 241.30 PCT
 Acid Soluble Iron
ICP
 420 0.00 .87
 Avg 0.00
 354 0.00 -.86

Meth: 261.30 PCT
 Acid Soluble Mangane
ICP
 354 0.000 .00
 420 0.000 .00
 Avg 0.000

Lab Average* Index

Meth: 311.99 PCT
 Sodium
Other
 354 0.06 .00

Meth: 321.30 PCT
 Acid Soluble Zinc
ICP
 009 0.000 1.29
 Avg 0.000
 420 0.000 -.64
 354 0.000 -.64

Lab Average* Index

Lab Average* Index

Lab Average* Index

* X=Excluded from lab performance S/s=Screened Outlier R=Duplicate Range too large A=Analysis beyond 3-s limits

Method Evaluation - Z Values Based on 1 Reports

Method Code	Number Of Labs	Avg Bias of Labs	Std Dev of Biases	Std Dev Within Labs	Method Code	Number Of Labs	Avg Bias of Labs	Std Dev of Biases	Std Dev Within Labs
001.10	2	0.00	1.22	0.00					
001.99	2	0.00	1.22	0.00					
001.XX	4	3.62	7.29	0.01					
005.00	4	0.00	1.06	0.17					
005.99	10	- 0.65	1.93	0.72					
005.XX	13	- 0.61	2.04	0.76					
006.10	2	0.00	0.20	0.85					
006.XX	2	0.00	0.20	0.85					
008.10	10	0.17	1.11	0.14					
008.XX	10	0.17	1.11	0.14					
010.11	7	0.11	0.99	0.28					
010.12	4	- 3.24	6.53	2.52					
010.60	62	0.06	1.17	0.28					
010.99	3	0.00	1.11	0.09					
010.XX	75	- 0.01	1.32	0.40					
020.20	2	0.00	1.22	0.00					
020.XX	3	0.00	1.12	0.00					
041.50	2	0.00	0.00	0.00					
041.XX	2	0.00	0.00	0.00					
050.50	2	0.00	1.11	0.37					
050.XX	4	12.29	24.60	4.87					
060.00	4	0.00	1.06	0.20					
060.20	2	0.00	1.22	0.10					
060.99	6	5.41	13.28	1.43					
060.XX	12	12.29	39.20	4.19					
101.30	4	0.00	1.07	0.10					
101.XX	4	0.00	1.07	0.10					
121.30	3	0.00	1.00	0.40					
121.XX	3	0.00	1.00	0.40					
144.99	2	0.00	1.07	0.42					
144.XX	2	0.00	1.07	0.42					
221.30	2	0.0000	1.1078	0.3693					
221.XX	2	0.0000	1.1078	0.3693					
241.30	2	0.00	1.22	0.06					
241.XX	2	0.00	1.22	0.06					
261.30	2	0.000	0.000	0.000					
261.XX	2	0.000	0.000	0.000					
321.30	3	0.000	1.114	0.076					
321.XX	2	0.322	1.365	0.093					