MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

Method	AOAC Ref.	Method Code	- Pass 1 Results for 82 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	- Pass 2 Results for 80 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Ammoniacal Nitrogen, Other		001.99	4	8.5075	0.3637	0.1150	4	8.5075	0.3637	0.1150
Ammon & Nitrate N, Devarda	892.01	009.10	7	8.7366	0.2121	0.0783	7	8.7366	0.2121	0.0783
Total Nitrogen, Modified Comprehensive	978.02	010.11	11	9.2447	0.1046	0.0407	11	9.2447	0.1046	0.0407
Total Nitrogen, Salicylic	955.04D	010.12	4	9.2202	0.1099	0.0231	4	9.2202	0.1099	0.0231
Total Nitrogen, Comprehensive	970.02	010.17	1	9.3850	0.0071	0.0100	1	9.3850	0.0071	0.0100
Total Nitrogen, Combustion		010.60	42	9.3636	0.0829	0.0660	38	9.3682	0.0737	0.0493
Total Nitrogen, Other		010.99	2	9.2998	0.0905	0.0435	2	9.2998	0.0905	0.0435
Method Group 010.XX PCT			61	9.3263	0.1080	0.0583	55	9.3334	0.0926	0.0452
Total Phosphate, Grav Quimociac	962.02	020.10	6	23.358	0.2222	0.0798	6	23.358	0.2222	0.0798
Total Phosphate, Spectrometric	958.01	020.20	16	23.300	0.2000	0.1291	16	23.300	0.2000	0.1291
Total Phosphate, Alka. Quimociac	969.02	020.30	1	23.410	0.0025	0.0035	1	23.410	0.0025	0.0035
Total Phosphate, Automated	978.01	020.40	6	23.413	0.1866	0.2183	6	23.413	0.1866	0.2183
Total Phosphate, ICP		020.50	3	22.838	0.3815	0.0483	3	22.838	0.3815	0.0483
Total Phosphate, Other		020.99	1	23.250	0.0707	0.1000	1	23.250	0.0707	0.1000
Method Group 020.XX PCT			33	23.291	0.2600	0.1243	32	23.281	0.2548	0.1138
Insoluble Phosphate, Grav Quimociac ...	963.03C	030.10	1	0.4750	0.0071	0.0100	1	0.4750	0.0071	0.0100
Insoluble Phosphate, Spectrometric	963.03C	030.20	2	0.4800	0.0523	0.0100	2	0.4800	0.0523	0.0100
Insoluble Phosphate, Automated	978.01	030.40	3	0.5233	0.0163	0.0133	3	0.5233	0.0163	0.0133
Insoluble Phosphate, Other		030.99	1	0.4650	0.0212	0.0300	1	0.4650	0.0212	0.0300
Method Group 030.XX PCT			7	0.4957	0.0376	0.0143	7	0.4957	0.0376	0.0143
InDir Available Phosphate, Grav Quim ..	960.02	040.10	1	22.985	0.0354	0.0500	1	22.985	0.0354	0.0500
InDir Available Phosphate, Spectrometri	960.02	040.20	3	22.667	0.4074	0.1133	3	22.667	0.4074	0.1133
InDir Available Phosphate, Automated ..	960.02	040.40	2	22.753	0.0403	0.0550	2	22.753	0.0403	0.0550
InDir Available Phosphate, Other		040.99	1	22.860	0.1697	0.2400	1	22.860	0.1697	0.2400
Method Group 040.XX PCT			7	22.764	0.2826	0.1057	7	22.764	0.2826	0.1057
Dir Available Phosphate, Grav Quim	960.03E	041.10	19	22.834	0.1998	0.0960	18	22.829	0.1957	0.0741
Dir Available Phosphate, Spectrometric	960.03D	041.20	1	22.450	0.2263	0.3200	1	22.450	0.2263	0.3200
Dir Available Phosphate, Alka. Quim ...	960.03C	041.30	1	22.315	0.2758	0.3900	1	22.315	0.2758	0.3900
Dir Available Phosphate, Automated	978.01	041.40	4	22.635	0.2609	0.0400	4	22.635	0.2609	0.0400
Dir Available Phosphate, ICP		041.50	8	22.525	0.2826	0.1075	8	22.525	0.2826	0.1075
Dir Available Phosphate, EDTA Extract .	993.01	041.60	10	22.792	0.2906	0.1674	10	22.792	0.2906	0.1674
Dir Available Phosphate, Other		041.99	2	22.365	0.5243	0.1747	2	22.365	0.5243	0.1747
Method Group 041.XX PCT			45	22.711	0.2988	0.1239	41	22.715	0.2676	0.0933
Water Soluble Phosphate, Spectrometric	970.01	048.20	2	19.133	0.1362	0.1650	2	19.133	0.1362	0.1650
Water Soluble Phosphate, Other		048.99	1	19.260	0.0141	0.0200	1	19.260	0.0141	0.0200
Method Group 048.XX PCT			3	19.175	0.1245	0.1167	3	19.175	0.1245	0.1167
Soluble Potash, STPB Oxalate	958.02	050.00	25	16.185	0.2428	0.1019	24	16.175	0.2373	0.0841
Soluble Potash, STPB Citrate	969.04	050.10	1	16.092	0.0444	0.0628	1	16.092	0.0444	0.0628
Soluble Potash, AA (Oxalate)		050.30	7	15.807	0.4444	0.2251	7	15.807	0.4444	0.2251

Method	AOAC Ref.	Method Code	- Pass 1 Results for 82 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	- Pass 2 Results for 80 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Soluble Potash, ICP (Oxalate)		050.50	5	15.748	0.1277	0.0463	5	15.748	0.1277	0.0463
Soluble Potash, ICP (Citrate)		050.51	8	15.883	0.4347	0.3103	8	15.883	0.4347	0.3103
Soluble Potash, Flame (Oxalate)	983.02(a	050.60	4	16.113	0.5991	0.1600	4	16.113	0.5991	0.1600
Soluble Potash, Flame (Citrate)	983.02(b	050.61	8	16.004	0.4041	0.1625	8	16.004	0.4041	0.1625
Soluble Potash, Other		050.99	14	16.029	0.3604	0.1962	13	16.018	0.3521	0.1459
Method Group 050.XX PCT			72	16.028	0.3741	0.1609	68	16.035	0.3604	0.1313
Free Water, Vacuum Oven	965.08B	060.00	7	0.7872	0.1064	0.0261	7	0.7872	0.1064	0.0261
Free Water, Other		060.99	1	0.5700	0.0141	0.0200	1	0.5700	0.0141	0.0200
Method Group 060.XX PCT			8	0.7601	0.1238	0.0254	8	0.7601	0.1238	0.0254
Acid Soluble Calcium, ICP		101.30	7	2.2279	0.0953	0.0597	7	2.2279	0.0953	0.0597
Acid Soluble Magnesium, ICP		121.30	6	0.4540	0.0169	0.0109	6	0.4540	0.0169	0.0109
Acid Soluble Magnesium, Other		121.99	1	0.4415	0.0155	0.0219	1	0.4415	0.0155	0.0219
Method Group 121.XX PCT			7	0.4522	0.0167	0.0125	7	0.4522	0.0167	0.0125
Sulfur, Gravimetric	980.02a	144.01	14	6.3604	0.1081	0.0663	12	6.3705	0.0926	0.0390
Sulfur, Gravimetric	980.02b	144.02	2	6.4800	0.4736	0.0200	2	6.4800	0.4736	0.0200
Sulfur, Spectrometric		144.70	2	6.2975	0.0877	0.0450	2	6.2975	0.0877	0.0450
Sulfur, Other		144.99	15	6.2140	0.7098	0.1905	14	6.1118	0.6044	0.1434
Method Group 144.XX PCT			34	6.2593	0.5372	0.1207	30	6.2836	0.3952	0.0716
Arsenic, ICP		151.30	3	6.7823	0.2312	0.1733	3	6.7823	0.2312	0.1733
Arsenic, Other		151.99	4	4.8363	1.2087	0.3675	4	4.8363	1.2087	0.3675
Method Group 151.XX PPM			7	5.6703	1.3439	0.2843	6	5.7487	1.4290	0.1650
Acid Soluble Boron, Other		165.99	1	0.1030	0.0199	0.0281	1	0.1030	0.0199	0.0281
Cadmium, Atomic Absorption		181.00	2	3.6571	1.0554	0.5073	2	3.6571	1.0554	0.5073
Cadmium, ICP		181.30	9	3.0879	0.9583	0.2529	8	3.0426	0.9904	0.1470
Cadmium, Other		181.99	2	3.2000	0.2309	0.0000	2	3.2000	0.2309	0.0000
Method Group 181.XX PPM			13	3.1927	0.8983	0.2531	11	3.0505	0.8473	0.1082
Water Soluble Chlorine, Other		190.99	1	12.590	0.0015	0.0021	1	12.590	0.0015	0.0021
Chromium, Atomic Absorption		191.00	1	63.000	0.0000	0.0000	1	63.000	0.0000	0.0000
Chromium, ICP		191.30	4	45.546	5.7222	4.1190	3	44.111	3.5429	0.3920
Method Group 191.XX PPM			5	49.037	8.9234	3.2952	4	48.833	9.2423	0.2940
Acid Soluble Cobalt, AA		202.00	3	6.6287	2.1945	0.0668	3	6.6287	2.1945	0.0668
Acid Soluble Cobalt, ICP	965.11	202.30	7	6.0155	1.0405	0.6749	7	6.0155	1.0405	0.6749
Acid Soluble Cobalt, Other		202.99	2	6.3250	1.5305	0.0500	2	6.3250	1.5305	0.0500
Method Group 202.XX PPM			13	6.6369	2.0138	0.4596	11	6.7300	2.1117	0.2068
Acid Soluble Copper, Atomic Absorption	975.01	221.00	7	0.0181	0.0033	0.0007	7	0.0181	0.0033	0.0007
Acid Soluble Copper, ICP		221.30	13	0.0184	0.0014	0.0009	13	0.0184	0.0014	0.0009
Acid Soluble Copper, Other		221.99	1	0.0173	0.0003	0.0004	1	0.0173	0.0003	0.0004
Method Group 221.XX PCT			22	0.0180	0.0024	0.0008	22	0.0180	0.0024	0.0008
Acid Soluble Iron, Atomic Absorption ..	980.01	241.00	1	0.5995	0.0078	0.0110	1	0.5995	0.0078	0.0110

Method	AOAC Ref.	Method Code	- Pass 1 Results for 82 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	- Pass 2 Results for 80 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Acid Soluble Iron, ICP		241.30	7	0.6655	0.0310	0.0114	7	0.6655	0.0310	0.0114
Acid Soluble Iron, Other		241.99	1	0.7163	0.0295	0.0417	1	0.7163	0.0295	0.0417
Method Group 241.XX PCT			9	0.6638	0.0400	0.0147	9	0.6638	0.0400	0.0147
Lead, Atomic Absorption		251.00	2	29.121	7.9435	0.0800	2	29.121	7.9435	0.0800
Lead, ICP		251.30	9	22.520	5.3928	0.8008	9	22.520	5.3928	0.8008
Lead, Other		251.99	1	21.500	0.7071	1.0000	1	21.500	0.7071	1.0000
Method Group 251.XX PPM			12	23.535	6.0283	0.6973	12	23.535	6.0283	0.6973
Acid Soluble Manganese, AA	972.02a	261.00	1	0.0525	0.0021	0.0030	1	0.0525	0.0021	0.0030
Acid Soluble Manganese, ICP	972.02a	261.30	6	0.0695	0.0059	0.0034	6	0.0695	0.0059	0.0034
Acid Soluble Manganese, Other		261.99	1	0.0616	0.0023	0.0032	1	0.0616	0.0023	0.0032
Method Group 261.XX PCT			8	0.0664	0.0079	0.0033	8	0.0664	0.0079	0.0033
Mercury, Other		281.99	2	0.0490	0.0272	0.0031	2	0.0490	0.0272	0.0031
Molybdenum, ICP		289.30	10	4.2947	2.1456	0.4107	9	4.5497	2.0831	0.2341
Molybdenum, Other		289.99	1	6.1000	0.0000	0.0000	1	6.1000	0.0000	0.0000
Method Group 289.XX PPM			11	4.4588	2.1089	0.3734	10	4.7047	2.0274	0.2107
Nickel, Atomic Absorption		291.00	2	11.362	3.6467	0.5297	2	11.362	3.6467	0.5297
Nickel, ICP		291.30	7	10.787	3.4627	1.1234	7	10.787	3.4627	1.1234
Nickel, Other		291.99	3	11.237	1.1915	0.1533	3	11.237	1.1915	0.1533
Method Group 291.XX PPM			12	10.995	2.9808	0.7819	11	11.445	2.6439	0.5894
Selenium, Other		301.99	5	0.2023	0.0392	0.0154	5	0.2023	0.0392	0.0154
Sodium, Atomic Absorption	983.04	311.00	1	0.4280	0.0071	0.0100	1	0.4280	0.0071	0.0100
Sodium, Other		311.99	3	0.4738	0.0233	0.0143	3	0.4738	0.0233	0.0143
Method Group 311.XX PCT			4	0.4623	0.0290	0.0133	4	0.4623	0.0290	0.0133
Acid Soluble Zin, ICP		321.30	9	0.1215	0.0069	0.0041	9	0.1215	0.0069	0.0041
Acid Soluble Zinc, Other		321.99	1	0.1137	0.0005	0.0007	1	0.1137	0.0005	0.0007
Method Group 321.XX PCT			10	0.1207	0.0070	0.0038	10	0.1207	0.0070	0.0038

MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 001.99 --	
193	8.8450	.94
320	8.8350	.90
Avg	8.5075	
418	8.2250 X	-.82
363	8.1250	-1.06
--	Method 009.10 --	
090	8.9050	.82
169	8.8760	.66
200	8.8700	.63
258	8.7800	.31
392	8.8000	.30
Avg	8.7366	
257	8.6250	-.59
391	8.3000	-2.11
--	Method 010.11 --	
220	9.3450	.99
288	9.3450	.96
322	9.3214	.74
114	9.2900	.52
148	9.2900	.44
029	9.2900	.44
028	9.2650	.31
Avg	9.2447	
414	9.2350	-.10
211	9.1600	-.86
363	9.1450	-1.14
395	9.0050	-2.29
--	Method 010.12 --	
351	9.3390	1.08
102	9.2621	.42
Avg	9.2202	
185	9.2200	-.09
416	9.0597	-1.46
376	8.6650 S	-5.05
--	Method 010.17 --	
405	9.3850	-.71
--	Method 010.60 --	
234	9.4750	1.94
369	9.5105	1.94
220	9.3950 R	1.60
043	9.4600	1.57
095	9.4750	1.49
330	9.4000	1.42
070	9.4400	.97
041	9.4400	.97
037	9.4100	.88
247	9.4200	.75
157	9.4200	.72
096	9.4150	.67
233	9.4150	.67
262	9.4050	.50
390	9.3800	.44
007	9.4000	.43
325	9.3900	.33
136	9.3900	.33
292	9.3700	.27
361	9.3800	.16
Avg	9.3682	
024	9.3600	-.11
049	9.3450	-.37
296	9.3400	-.38
027	9.3350	-.45
029	9.3350	-.49
028	9.3300	-.59
040	9.3200	-.71
251	9.3100	-.80
377	9.3100	-.80
275	9.3590	-.86
360	9.3650	-.88
106	9.3000	-.94
131	9.2965	-.99
389	9.2800	-1.20
--	Method 010.60 --	
023	9.3200	-1.27
025	9.2750	-1.28
009	9.2750	-1.28
381	9.3050	-1.33
035	9.3500 R	-1.65
073	9.3400 R	-1.67
055	9.2350	-1.82
324	9.1950 A	-2.68
042	9.0750 s	-4.11
018	8.9050 s	-6.29
142	7.8400 s	-20.75
--	Method 010.99 --	
354	9.4951 S	4.35
362	9.3750 X	.88
Avg	9.2998	
177	9.2245	-.86
415	8.0416 S	-13.90
--	Method 010.XX --	
354	9.4951 s	4.08
369	9.5105	1.91
234	9.4750	1.84
043	9.4600	1.56
095	9.4750	1.55
220	9.3950 R	1.41
035	9.3500 R	1.31
073	9.3400 R	1.30
330	9.4000 R	1.30
070	9.4400	1.15
041	9.4400	1.15
037	9.4100	.99
247	9.4200	.96
157	9.4200	.94
233	9.4150	.90
096	9.4150	.90
360	9.3650	.78
262	9.4050	.77
--	Method 010.XX --	
275	9.3590	.73
007	9.4000	.72
136	9.3900	.62
325	9.3900	.62
390	9.3800	.60
405	9.3850	.56
362	9.3750 X	.52
361	9.3800	.50
292	9.3700	.45
220	9.3450	.30
024	9.3600	.29
049	9.3450	.20
029	9.3350	.16
288	9.3450	.14
351	9.3390	.07
296	9.3400	.07
027	9.3350	.02
Avg	9.3334	
322	9.3214	-.20
028	9.3300	-.22
040	9.3200	-.26
377	9.3100	-.27
251	9.3100	-.27
106	9.3000	-.38
131	9.2965	-.42
148	9.2900	-.48
029	9.2900	-.48
114	9.2900	-.57
389	9.2800	-.59
025	9.2750	-.65
009	9.2750	-.65
028	9.2650	-.79
102	9.2621	-.80
381	9.3050	-.87
023	9.3200	-.88
414	9.2350	-1.06
055	9.2350	-1.07
177	9.2245	-1.19
--	Method 010.XX --	
185	9.2200	-1.23
324	9.1950	-1.81
211	9.1600	-1.90
363	9.1450	-2.15
042	9.0750 A	-2.90
416	9.0597	-2.96
395	9.0050 A	-3.55
018	8.9050 s	-4.63
376	8.6650 s	-7.22
415	8.0416 s	-13.94
142	7.8400 s	-16.13
--	Method 020.10 --	
114	23.585	1.03
414	23.490	.69
148	23.470	.51
090	23.460	.47
Avg	23.358	
157	23.113	-1.12
095	23.030	-1.49
--	Method 020.20 --	
391	32.400 s	45.51
381	25.990 s	13.45
234	24.470 s	7.73
106	23.610	1.68
369	23.440	1.06
363	23.470	.85
257	23.460	.80
392	23.400	.71
258	23.420	.61
362	23.385 X	.60
395	23.395	.58
Avg	23.300	
288	23.295	-.18
324	23.280	-.32
292	23.245	-.33
200	23.200	-.64

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

MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 020.20	--
169	23.156	-.78
390	23.130	-.99
376	23.050	-1.28
220	22.865	-2.18
418	22.450 s	-4.62
030	22.150 s	-5.76
--	Method 020.30	--
416	23.410	-.71
--	Method 020.40	--
042	32.105 s	46.59
193	23.600	1.59
035	23.485	1.06
142	23.455	.33
Avg	23.413	
247	23.400	-.65
096	23.275	-.79
409	23.260	-.82
--	Method 020.50	--
330	24.525 S	4.69
361	23.325	1.28
Avg	22.838	
389	22.650	-.51
157	22.540	-.78
--	Method 020.99	--
320	23.250	.71
--	Method 020.XX	--
391	32.400 s	35.79
042	32.105 s	34.63
381	25.990 s	10.63
234	24.470 s	6.12
330	24.525 s	5.41
193	23.600 R	1.54
106	23.610	1.39
--	Method 020.XX	--
114	23.585	1.20
035	23.485	1.08
369	23.440	.88
414	23.490	.88
148	23.470	.75
363	23.470	.74
090	23.460	.71
142	23.455	.70
257	23.460	.70
247	23.400	.66
392	23.400	.61
258	23.420	.55
362	23.385 X	.53
395	23.395	.51
416	23.410	.50
361	23.325	.18
288	23.295	.15
Avg	23.281	
409	23.260	-.11
292	23.245	-.20
096	23.275	-.22
320	23.250	-.23
324	23.280	-.24
200	23.200	-.45
169	23.156	-.54
157	23.113	-.68
390	23.130	-.71
376	23.050	-.93
095	23.030	-1.01
220	22.865	-1.64
389	22.650	-2.49
157	22.540	-2.91
418	22.450 s	-3.56
030	22.150 s	-4.44
--	Method 030.10	--
090	0.4750	.71
--	Method 030.20	--
363	0.9750 S	9.47
220	0.5250	.87
Avg	0.4800	
106	0.4350	-.87
--	Method 030.40	--
247	0.5400	1.02
Avg	0.5233	
409	0.5200	-.65
096	0.5100	-1.02
--	Method 030.99	--
320	0.4650	.71
--	Method 030.XX	--
363	0.9750 s	12.77
247	0.5400	1.18
220	0.5250	.79
409	0.5200	.70
096	0.5100	.46
Avg	0.4957	
090	0.4750	-.57
320	0.4650	-.91
106	0.4350	-1.62
--	Method 040.10	--
090	22.985	.71
--	Method 040.20	--
106	23.175	1.29
Avg	22.667	
363	22.485	-.45
220	22.340	-.81
--	Method 040.40	--
096	22.765	1.16
Avg	22.753	
409	22.740	-.40
--	Method 040.99	--
247	22.860	.71
--	Method 040.XX	--
106	23.175	1.52
090	22.985	.79
247	22.860	.54
096	22.765	.16
Avg	22.764	
409	22.740	-.09
363	22.485	-.99
220	22.340	-1.51
--	Method 041.10	--
405	24.295 s	7.53
211	23.275	2.28
296	23.170	1.74
086	22.925 R	1.34
055	22.995	.88
057	23.000	.87
131	22.900	.47
177	22.865	.37
414	22.830	.15
Avg	22.829	
009	22.820	-.11
029	22.805	-.13
233	22.780	-.26
136	22.805	-.26
102	22.770	-.30
028	22.765	-.34
041	22.685	-.74
040	22.685	-.81
049	22.660	-.90
185	22.650	-1.19
322	22.465	-1.88
--	Method 041.20	--
362	22.450 X	.71
--	Method 041.30	--
260	22.315	.71
--	Method 041.40	--
131	22.960	1.25
029	22.760	.48
Avg	22.635	
027	22.490	-.56
025	22.330	-1.18
--	Method 041.50	--
354	26.851 s	15.53
325	22.825	1.07
361	22.820	1.04
023	22.740	.77
007	22.700	.71
Avg	22.525	
393	22.490	-.16
360	22.285	-.88
070	22.195	-1.18
251	22.145	-1.40
--	Method 041.60	--
018	23.150	1.50
296	23.120	1.15
351	23.035	.86
397	23.011	.76
043	22.835	.17
Avg	22.792	
288	22.550	-.83
377	22.550	-.85
177	22.528	-.95
037	22.675	-1.00
095	22.465	-1.12
262	21.700 s	-3.82
--	Method 041.99	--
028	22.810	.86
Avg	22.365	

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

MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 041.99 --	
415	21.921	-.88
--	Method 041.XX --	
354	26.851 s	15.70
405	24.295 s	5.93
211	23.275	2.09
018	23.150 R	1.87
296	23.170	1.70
296	23.120	1.53
351	23.035	1.22
086	22.925 R	1.20
397	23.011	1.11
057	23.000	1.06
055	22.995	1.06
131	22.960	.92
131	22.900	.73
177	22.865	.61
043	22.835	.46
414	22.830	.44
325	22.825	.42
028	22.810	.42
009	22.820	.40
361	22.820	.39
136	22.805	.37
029	22.805	.34
233	22.780	.24
102	22.770	.20
028	22.765	.19
029	22.760	.17
023	22.740	.14
Avg	22.715	
041	22.685	-.13
040	22.685	-.27
049	22.660	-.28
007	22.700	-.38
185	22.650	-.61
288	22.550	-.62
377	22.550	-.65
--	Method 041.XX --	
177	22.528	-.76
027	22.490	-.84
393	22.490	-.85
095	22.465	-.94
322	22.465	-.95
037	22.675 R	-1.00
362	22.450 X	-1.16
025	22.330	-1.45
360	22.285	-1.63
260	22.315	-1.66
070	22.195	-1.96
251	22.145	-2.17
415	21.921 A	-3.00
262	21.700 s	-3.87
--	Method 048.20 --	
363	19.150	.13
Avg	19.133	
362	19.115 X	-1.22
--	Method 048.99 --	
247	19.260	.71
--	Method 048.XX --	
247	19.260	.69
Avg	19.175	
363	19.150	-.20
362	19.115 X	-1.41
--	Method 050.00 --	
095	16.835	2.78
418	16.540 X	1.55
193	16.405 R	1.48
057	16.510	1.44
090	16.435	1.16
391	16.300	.67
416	16.255	.61
258	16.290	.48
--	Method 050.00 --	
257	16.236	.27
233	16.220	.21
Avg	16.175	
102	16.175	.00
148	16.130	-.20
211	16.125	-.22
055	16.150	-.24
009	16.130	-.28
131	16.100	-.32
043	16.140	-.49
414	16.060	-.51
220	16.040	-.62
350	16.010	-.70
029	16.000	-.74
028	15.960	-.92
049	15.920	-1.12
296	15.850	-1.37
392	15.800	-1.59
--	Method 050.10 --	
322	16.092	.71
--	Method 050.30 --	
114	20.505 s	10.68
262	17.400 S	3.59
095	16.595	1.85
185	16.150	.84
381	15.890	.39
Avg	15.807	
142	15.650	-.35
405	15.515	-.67
040	15.460	-.87
351	15.388	-.94
--	Method 050.50 --	
354	15.914	1.34
389	15.800	.41
292	15.765	.31
--	Method 050.50 --	
Avg	15.748	
106	15.705	-.36
324	15.555	-1.52
--	Method 050.51 --	
023	16.530	1.59
361	16.185	.70
007	16.000	.53
377	16.050	.40
Avg	15.883	
393	15.745	-.33
251	15.790	-.86
070	15.480	-.93
157	15.281	-1.53
--	Method 050.60 --	
131	16.680	.95
390	16.420	.67
288	16.115	.01
Avg	16.113	
200	15.235	-1.47
--	Method 050.61 --	
018	16.550	1.49
037	16.425	1.08
025	16.185	.56
035	16.170	.41
Avg	16.004	
028	15.975	-.11
030	15.700	-.75
041	15.575	-1.09
029	15.450	-1.37
--	Method 050.99 --	
330	16.860	2.49
042	16.175 R	1.29
325	16.390	1.06
415	16.339	.99
360	16.125	.54
247	16.030	.07
Avg	16.018	
376	15.975	-.13
275	15.919	-.29
363	15.895	-.37
177	15.864	-.44
395	15.820	-.63
234	15.745	-.79
260	15.660	-1.04
369	15.610	-1.17
--	Method 050.XX --	
114	20.505 s	12.54
262	17.400 s	3.80
330	16.860	2.39
095	16.835	2.22
131	16.680	1.79
095	16.595	1.68
018	16.550	1.59
023	16.530	1.53
418	16.540 X	1.41
057	16.510	1.33
390	16.420	1.29
193	16.405 R	1.26
042	16.175 R	1.24
090	16.435	1.14
037	16.425	1.13
325	16.390	.99
415	16.339	.92
391	16.300	.79
258	16.290	.71
416	16.255	.70
257	16.236	.56
025	16.185	.56
185	16.150	.52
233	16.220	.52
360	16.125	.50

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

MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
-- Method 050.XX --		
043	16.140	.42
361	16.185	.42
102	16.175	.39
035	16.170	.37
055	16.150	.35
009	16.130	.30
148	16.130	.26
211	16.125	.25
288	16.115	.22
131	16.100	.18
322	16.092	.18
220	16.040	.17
377	16.050	.14
414	16.060	.13
Avg	16.035	
247	16.030	-.06
350	16.010	-.08
029	16.000	-.10
376	15.975	-.17
028	15.975	-.19
028	15.960	-.22
275	15.919	-.33
354	15.914	-.35
049	15.920	-.37
363	15.895	-.41
177	15.864	-.48
296	15.850	-.52
007	16.000	-.56
381	15.890	-.58
389	15.800	-.65
392	15.800	-.66
395	15.820	-.66
292	15.765	-.76
393	15.745	-.81
234	15.745	-.82
106	15.705	-.92
030	15.700	-.93
260	15.660	-1.06

Lab	Average*	Index
-- Method 050.XX --		
142	15.650	-1.07
369	15.610	-1.19
251	15.790 R	-1.21
041	15.575	-1.30
324	15.555	-1.33
405	15.515	-1.45
070	15.480	-1.55
029	15.450	-1.62
040	15.460	-1.66
351	15.388	-1.80
200	15.235	-2.22
157	15.281 R	-2.23
-- Method 060.00 --		
363	0.8950	1.06
416	0.8706	.78
247	0.8250	.36
362	0.7900	.19
361	0.7900	.10
Avg	0.7872	
193	0.7800	-.12
007	0.5600	-2.14
-- Method 060.99 --		
320	0.5700	-.71
-- Method 060.XX --		
363	0.8950	1.13
416	0.8706	.89
247	0.8250	.53
362	0.7900	.29
361	0.7900	.25
193	0.7800	.18
Avg	0.7601	
320	0.5700	-1.54
007	0.5600	-1.62

Lab	Average*	Index
-- Method 101.30 --		
361	2.4200	2.02
041	2.2600	.62
009	2.2291	.33
Avg	2.2279	
035	2.1900	-.58
131	2.1770	-.64
247	2.1600	-.74
102	2.1590	-.81
-- Method 121.00 --		
193	0.3745 S	.00
-- Method 121.30 --		
247	0.4700	1.12
102	0.4652	.75
041	0.4650	.72
Avg	0.4540	
009	0.4512	-.37
131	0.4467	-.53
035	0.4260	-1.66
-- Method 121.99 --		
320	0.4415	.71
-- Method 121.XX --		
247	0.4700	1.22
102	0.4652	.85
041	0.4650	.82
Avg	0.4522	
009	0.4512	-.33
131	0.4467	-.45
320	0.4415	-.92
035	0.4260	-1.57
193	0.3745 s	-4.64
-- Method 144.01 --		
395	6.5700	2.22
262	6.4100 R	1.26

Lab	Average*	Index
-- Method 144.01 --		
043	6.4350	.79
296	6.4250	.76
055	6.4350	.71
233	6.3800	.44
288	6.3950	.27
Avg	6.3705	
324	6.3650	-.08
070	6.3350	-.39
193	6.3100	-.66
102	6.2862	-.92
057	6.2600	-1.19
405	6.2500	-1.31
363	6.1900 R	-2.34
095	5.0050 s	-14.78
397	2.5633 s	-41.12
-- Method 144.02 --		
251	6.8900	.87
Avg	6.4800	
361	6.0700	-.87
086	3.9700 S	-5.30
-- Method 144.70 --		
393	6.3700	.86
Avg	6.2975	
247	6.2250	-.87
-- Method 144.99 --		
035	7.6450 R	2.63
330	7.0300	1.52
029	6.7500	1.06
023	6.5105	.66
009	6.3440	.53
136	6.4300	.53
376	6.3200	.35
389	6.2950	.30
040	6.1850	.14
028	6.1300	.04

Lab	Average*	Index
-- Method 144.99 --		
Avg	6.1118	
131	6.0900	-.09
360	5.9960	-.36
409	5.6050	-.94
200	5.1650 X	-1.57
351	4.7140	-2.32
073	3.6750 S	-4.04
-- Method 144.XX --		
035	7.6450 R	3.61
330	7.0300	1.89
251	6.8900	1.53
029	6.7500	1.18
395	6.5700	.74
009	6.3440 R	.58
023	6.5105	.58
262	6.4100	.42
043	6.4350	.39
055	6.4350	.39
296	6.4250	.38
136	6.4300	.37
288	6.3950	.28
233	6.3800	.26
393	6.3700	.22
324	6.3650	.21
070	6.3350	.13
376	6.3200	.11
193	6.3100	.07
102	6.2862	.04
389	6.2950	.03
Avg	6.2836	
057	6.2600	-.06
405	6.2500	-.09
247	6.2250	-.16
040	6.1850	-.27
363	6.1900	-.39
028	6.1300	-.39
131	6.0900	-.51

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

MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 144.XX --	
361	6.0700	-.54
360	5.9960	-.86
409	5.6050 R	-1.83
200	5.1650 X	-2.83
095	5.0050	-3.24
351	4.7140 A	-3.98
086	3.9700 s	-5.86
073	3.6750 s	-6.62
397	2.5633 s	-9.42
--	Method 151.30 --	
102	7.0470	1.17
Avg	6.7823	
247	6.7000	-.56
389	6.6000	-.90
--	Method 151.99 --	
409	6.0500	1.01
220	5.2000	.51
040	5.0450	.21
Avg	4.8363	
376	3.0500	-1.48
--	Method 151.XX --	
102	7.0470	.91
247	6.7000	.67
389	6.6000	.60
409	6.0500	.21
Avg	5.7487	
040	5.0450	-.50
220	5.2000 R	-.52
376	3.0500	-1.89
--	Method 165.99 --	
009	0.1030	.71
--	Method 181.00 --	
193	4.5000	.93
--	Method 181.00 --	
Avg	3.6571	
--	Method 181.30 --	
389	5.0500	2.03
324	3.4500 R	.69
106	3.4000	.36
035	3.1350	.25
102	3.2760	.24
232	3.0500	.15
Avg	3.0426	
009	2.7200	-.33
247	2.1000	-.96
376	1.6100	-1.45
--	Method 181.99 --	
409	3.4000	.87
Avg	3.2000	
320	3.0000	-.87
--	Method 181.XX --	
389	5.0500	2.36
193	4.5000 R	1.81
324	3.4500 R	.80
106	3.4000	.41
409	3.4000	.41
035	3.1350	.29
102	3.2760	.27
Avg	3.0505	
320	3.0000	-.06
232	3.0500	-.18
397	2.8143	-.28
009	2.7200	-.39
247	2.1000	-1.13
376	1.6100	-1.70
--	Method 190.99 --	
009	12.590	-.71
--	Method 191.00 --	
193	63.000	.00
--	Method 191.30 --	
035	49.850 R	2.70
009	47.995	1.10
102	44.239	.06
Avg	44.111	
247	40.100	-1.14
--	Method 191.XX --	
193	63.000	1.53
035	49.850 R	.83
Avg	48.833	
009	47.995	-.09
102	44.239	-.50
247	40.100	-.95
--	Method 202.00 --	
193	9.4500	1.29
Avg	6.6287	
397	5.4362	-.54
220	5.0000	-.74
--	Method 202.30 --	
009	11.635 s	5.42
376	7.0000	1.35
102	7.3588	1.33
247	6.4500	.44
Avg	6.0155	
389	5.6500	-.35
232	5.5000	-.50
106	4.9000	-1.07
324	5.2500	-1.10
--	Method 202.99 --	
409	7.6500	.87
Avg	6.3250	
320	5.0000	-.87
--	Method 202.XX --	
009	11.635	2.33
193	9.4500	1.29
376	7.0000 R	.49
409	7.6500	.44
102	7.3588	.33
Avg	6.7300	
247	6.4500	-.15
389	5.6500	-.51
232	5.5000	-.58
397	5.4362	-.61
324	5.2500 R	-.81
220	5.0000	-.82
320	5.0000	-.82
106	4.9000	-.87
--	Method 221.00 --	
086	0.0239	1.79
029	0.0203	.68
028	0.0185	.12
Avg	0.0181	
095	0.0175	-.19
390	0.0175	-.23
043	0.0155	-.84
193	0.0134	-1.43
--	Method 221.30 --	
041	0.0239 s	5.48
023	0.0200	1.38
330	0.0201	1.35
247	0.0199	1.08
057	0.0197	.92
102	0.0195	.80
Avg	0.0184	
035	0.0184	-.19
389	0.0183	-.22
288	0.0179	-.38
106	0.0180	-.79
131	0.0172	-.98
--	Method 221.30 --	
324	0.0171	-1.05
009	0.0168	-1.24
232	0.0167	-1.29
376	0.0130 s	-4.04
--	Method 221.99 --	
395	0.1800 S	575.23
Avg	0.0173	
409	0.0173	-.71
--	Method 221.XX --	
395	0.1800 s	68.16
041	0.0239 s	3.26
086	0.0239	2.49
029	0.0203	.97
023	0.0200	.94
330	0.0201	.93
247	0.0199	.79
057	0.0197	.70
102	0.0195	.62
028	0.0185	.19
035	0.0184	.18
389	0.0183	.15
Avg	0.0180	
288	0.0179	-.06
095	0.0175	-.23
390	0.0175	-.30
409	0.0173	-.31
131	0.0172	-.40
106	0.0180	-.42
324	0.0171	-.44
009	0.0168	-.56
232	0.0167	-.57
043	0.0155	-1.13
193	0.0134	-1.94
376	0.0130	-2.15

* 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
--	Method 241.00	--
193	0.5995	.71
--	Method 241.30	--
035	0.7260	1.96
102	0.6734	.32
009	0.6719	.21
Avg	0.6655	
131	0.6575	-.26
041	0.6550	-.59
247	0.6500	-.60
057	0.6249	-1.31
--	Method 241.99	--
320	0.7163	-.71
--	Method 241.XX	--
035	0.7260	1.56
320	0.7163	1.41
102	0.6734	.28
009	0.6719	.20
Avg	0.6638	
131	0.6575	-.16
247	0.6500	-.43
041	0.6550	-.43
057	0.6249	-.97
193	0.5995	-1.61
--	Method 251.00	--
193	36.000	.87
Avg	29.121	
397	22.242	-.87
--	Method 251.30	--
324	33.000	1.94
389	28.000	1.02
376	25.550	.56
247	23.400	.17
Avg	22.520	

Lab	Average*	Index
--	Method 251.30	--
102	20.496	-.38
035	20.000	-.50
232	18.650	-.73
106	18.150	-.83
009	15.435	-1.32
--	Method 251.99	--
409	21.500	.71
--	Method 251.XX	--
193	36.000	2.07
324	33.000	1.57
389	28.000	.74
376	25.550	.33
Avg	23.535	
247	23.400	-.04
397	22.242	-.21
409	21.500	-.35
102	20.496	-.50
035	20.000	-.61
232	18.650	-.82
106	18.150	-.90
009	15.435	-1.35
--	Method 261.00	--
193	0.0525	.71
--	Method 261.30	--
035	0.6505 s	98.04
247	0.0800	1.82
041	0.0704	.64
009	0.0695	.15
Avg	0.0695	
131	0.0680	-.30
057	0.0662	-.56
102	0.0628	-1.16

Lab	Average*	Index
--	Method 261.99	--
320	0.0616	.71
--	Method 261.XX	--
035	0.6505 s	73.86
247	0.0800	1.75
041	0.0704	.69
009	0.0695	.41
131	0.0680	.24
Avg	0.0664	
057	0.0662	-.04
102	0.0628	-.50
320	0.0616	-.63
193	0.0525	-1.76
--	Method 281.99	--
376	0.0725	.87
Avg	0.0490	
296	0.0256	-.87
--	Method 289.30	--
009	7.2150	1.28
057	6.0000	.70
247	5.6500	.54
324	5.4500	.48
102	5.0620	.25
232	4.8500	.15
Avg	4.5497	
106	4.4500	-.09
389	2.0500	-1.20
288	2.0000 R	-1.31
376	0.2201	-2.08
--	Method 289.99	--
409	6.1000	.00
--	Method 289.XX	--
009	7.2150	1.24
409	6.1000	.69

Lab	Average*	Index
--	Method 289.XX	--
057	6.0000	.64
247	5.6500	.48
324	5.4500	.43
102	5.0620	.18
232	4.8500	.08
Avg	4.7047	
106	4.4500	-.15
389	2.0500	-1.31
288	2.0000 R	-1.42
376	0.2201	-2.21
--	Method 291.00	--
193	14.500	.87
Avg	11.362	
397	8.2235	-.86
--	Method 291.30	--
247	17.750	2.01
376	11.000	.07
102	11.001	.06
Avg	10.787	
389	10.000	-.23
009	10.160	-.38
232	9.5500	-.45
324	6.0500	-1.43
--	Method 291.99	--
320	12.000	.64
409	12.000	.64
Avg	11.237	
035	9.7100	-1.30
--	Method 291.XX	--
247	17.750	2.39
193	14.500	1.17
320	12.000	.21
409	12.000	.21
Avg	11.445	

Lab	Average*	Index
--	Method 291.XX	--
102	11.001	-.17
376	11.000	-.17
389	10.000	-.55
009	10.160	-.65
035	9.7100	-.66
232	9.5500	-.80
397	8.2235	-1.22
324	6.0500 R	-2.11
--	Method 301.99	--
296	0.2400	.98
376	0.2215	.49
040	0.2150	.35
Avg	0.2023	
131	0.2000	-.26
389	0.1350	-1.76
--	Method 311.00	--
193	0.4280	.71
--	Method 311.99	--
009	0.5611 S	4.85
102	0.5013	1.26
Avg	0.4738	
035	0.4650	-.46
247	0.4550	-.83
--	Method 311.XX	--
009	0.5611 s	4.21
102	0.5013	1.39
035	0.4650	.23
Avg	0.4623	
247	0.4550	-.31
193	0.4280	-1.19
--	Method 321.00	--
193	0.0945 S	.00

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

MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
-- Method 321.30 --														
009	0.1334	1.83												
041	0.1231	.89												
035	0.1260	.87												
393	0.1242	.40												
Avg	0.1215													
102	0.1212	-.21												
131	0.1190	-.36												
247	0.1188	-.39												
057	0.1175	-.62												
292	0.1100	-1.65												
-- Method 321.99 --														
320	0.1137	.71												
-- Method 321.XX --														
009	0.1334	1.92												
035	0.1260	.95												
041	0.1231	.92												
393	0.1242	.51												
102	0.1212	.22												
Avg	0.1207													
131	0.1190	-.25												
247	0.1188	-.28												
057	0.1175	-.51												
320	0.1137	-1.01												
292	0.1100	-1.53												
193	0.0945 s	-3.78												

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

MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

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
001.99	4	0.0000	1.06	0.17	101.XX	7	0.0000	0.97	0.35
001.XX	4	0.0000	1.06	0.17	121.30	6	0.0000	0.97	0.36
009.10	7	0.0000	1.01	0.24	121.XX	8	-0.5805	1.86	0.39
009.XX	7	0.0000	1.01	0.24	144.01	16	-3.5865	10.70	0.60
010.11	11	0.0000	0.99	0.25	144.02	3	-1.7667	3.18	0.05
010.12	5	-1.0099	2.44	0.11	144.70	2	0.0000	1.17	0.26
010.60	45	-0.7473	3.35	0.67	144.99	16	-0.0934	1.54	0.25
010.99	4	-2.9351	7.41	1.90	144.XX	37	-0.6476	2.42	0.27
010.XX	63	-0.7086	3.02	0.65	151.30	3	0.0000	1.01	0.38
020.10	6	0.0000	1.02	0.20	151.99	4	0.0000	1.05	0.22
020.20	21	2.6098	10.51	1.22	151.XX	7	-0.0549	0.97	0.14
020.40	7	6.6547	17.62	0.70	181.00	2	0.0000	1.13	0.34
020.50	4	1.1052	2.39	0.78	181.30	9	0.0457	0.97	0.21
020.XX	39	2.2034	8.12	0.85	181.99	2	0.0000	1.22	0.00
030.20	3	3.1560	5.53	0.18	181.XX	13	0.1679	1.05	0.26
030.40	3	0.0000	0.94	0.50	191.30	4	0.4050	1.22	1.08
030.XX	8	1.5949	4.61	0.25	191.XX	5	0.0220	0.94	0.37
040.20	3	0.0000	1.10	0.18	202.00	3	0.0000	1.12	0.02
040.40	2	0.0000	0.44	0.81	202.30	8	0.6751	2.08	0.49
040.XX	7	0.0000	1.01	0.25	202.99	2	0.0000	1.22	0.02
041.10	20	0.3991	1.91	0.41	202.XX	13	-0.0441	0.95	0.19
041.40	4	0.0000	1.07	0.10	221.00	7	0.0000	1.03	0.14
041.50	9	1.7009	5.19	0.90	221.30	15	0.0045	1.74	1.04
041.60	11	-0.3415	1.43	0.45	221.99	2	287.6157	406.75	0.50
041.99	2	0.0000	1.20	0.17	221.XX	24	2.9434	13.93	0.48
041.XX	43	0.3254	2.80	0.57	241.30	7	0.0000	1.01	0.25
048.20	2	0.0000	0.18	0.86	241.XX	9	0.0000	1.00	0.25
048.XX	3	0.0000	0.61	0.77	251.00	2	0.0000	1.22	0.01
050.00	25	0.0387	0.98	0.32	251.30	9	0.0000	1.03	0.10
050.30	9	1.5728	3.68	0.57	251.XX	12	0.0000	1.02	0.08
050.50	5	0.0000	1.03	0.21	261.30	7	13.9585	36.94	3.04
050.51	8	0.0000	0.91	0.46	261.XX	9	8.1799	24.56	2.01
050.60	4	0.0000	1.05	0.22	281.99	2	0.0000	1.22	0.06
050.61	8	0.0000	0.99	0.28	281.XX	2	0.0000	1.22	0.06
050.99	14	0.0319	0.95	0.42	289.30	10	-0.1224	1.04	0.17
050.XX	70	0.1858	1.81	0.43	289.XX	11	-0.1213	1.05	0.17
060.00	7	0.0000	1.03	0.16	291.00	2	0.0000	1.22	0.10
060.XX	8	0.0000	1.03	0.13	291.30	7	0.0000	1.01	0.23
101.30	7	0.0000	0.97	0.35	291.99	3	0.0000	1.11	0.11

MAGRUDER - Fertilizer Check Sample No. - 200205 Grade 8-32-16

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
291.XX	12	-0.1700	1.13	0.24					
301.99	5	0.0000	1.03	0.23					
301.XX	5	0.0000	1.03	0.23					
311.99	4	0.9365	2.06	1.57					
311.XX	5	0.6798	1.77	1.13					
321.30	9	0.0000	0.93	0.42					
321.XX	10	-0.4251	1.49	0.42					