MAGRUDER - Fertilizer Check Sample No. - 200108 Grade 6-6-18

Method	AOAC Ref.	Method Code	- Pass 1 Results for 86 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	- Pass 2 Results for 85 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Ammoniacal Nitrogen, MgO Distillation .	920.03	001.10	13	3.1253	0.1028	0.0324	12	3.1303	0.1033	0.0226
Ammoniacal Nitrogen, Other		001.99	9	3.1267	0.0679	0.0356	9	3.1267	0.0679	0.0356
Method Group 001.XX PCT			22	3.1258	0.0893	0.0337	21	3.1287	0.0889	0.0281
Nitrate Nitrogen, Jones Modified	930.02	002.20	4	3.0442	0.2038	0.0327	4	3.0442	0.2038	0.0327
Nitrate Nitrogen, Other		002.99	13	2.9734	0.1313	0.0336	12	2.9662	0.1327	0.0247
Method Group 002.XX PCT			17	2.9901	0.1510	0.0334	16	2.9857	0.1537	0.0267
Nitrogen From Urea, Other		005.99	1	45.864	0.0448	0.0633	1	45.864	0.0448	0.0633
Percent Biuret, Spec (as Biuret)	960.04	008.10	1	1.1597	0.0033	0.0046	1	1.1597	0.0033	0.0046
Ammon & Nitrate N, Devarda	892.01	009.10	8	6.1940	0.0740	0.0155	8	6.1940	0.0740	0.0155
Total Nitrogen, Modified Comprehensive	978.02	010.11	5	6.2030	0.0566	0.0420	5	6.2030	0.0566	0.0420
Total Nitrogen, Salicylic	955.04D	010.12	6	6.2220	0.1152	0.0343	6	6.2220	0.1152	0.0343
Total Nitrogen, Comprehensive	970.02	010.17	1	6.3838	0.0509	0.0720	1	6.3838	0.0509	0.0720
Total Nitrogen, Combustion		010.60	47	6.2642	0.1256	0.0677	45	6.2630	0.1236	0.0580
Total Nitrogen, Other		010.99	6	6.1395	0.1266	0.0203	6	6.1395	0.1266	0.0203
Method Group 010.XX PCT			65	6.2459	0.1261	0.0583	62	6.2455	0.1246	0.0487
Total Phosphate, Grav Quimociac	962.02	020.10	7	5.6836	0.0678	0.0329	7	5.6836	0.0678	0.0329
Total Phosphate, Spectrometric	958.01	020.20	17	5.6568	0.1035	0.0405	16	5.6519	0.0999	0.0274
Total Phosphate, Alka. Quimociac	969.02	020.30	1	5.6375	0.0054	0.0076	1	5.6375	0.0054	0.0076
Total Phosphate, Automated	978.01	020.40	7	5.6386	0.1268	0.0714	6	5.6083	0.0969	0.0433
Total Phosphate, ICP		020.50	4	5.6675	0.0696	0.0400	4	5.6675	0.0696	0.0400
Total Phosphate, Other		020.99	3	5.6661	0.1978	0.0851	3	5.6661	0.1978	0.0851
Method Group 020.XX PCT			39	5.6596	0.1062	0.0472	36	5.6475	0.0951	0.0331
Insoluble Phosphate, Grav Quimociac ...	963.03C	030.10	2	0.0925	0.0096	0.0050	2	0.0925	0.0096	0.0050
Insoluble Phosphate, Spectrometric	963.03C	030.20	4	0.1100	0.0857	0.0300	4	0.1100	0.0857	0.0300
Insoluble Phosphate, Automated	978.01	030.40	2	0.2300	0.0424	0.0700	2	0.2300	0.0424	0.0700
Method Group 030.XX PCT			8	0.1356	0.0838	0.0338	8	0.1356	0.0838	0.0338
InDir Available Phosphate, Grav Quim ..	960.02	040.10	1	5.6000	0.0424	0.0600	1	5.6000	0.0424	0.0600
InDir Available Phosphate, Spectrometri	960.02	040.20	3	5.5000	0.0569	0.0133	3	5.5000	0.0569	0.0133
InDir Available Phosphate, Automated ..	960.02	040.40	4	5.3750	0.0929	0.0800	4	5.3750	0.0929	0.0800
InDir Available Phosphate, Other		040.99	1	5.4800	0.0283	0.0400	1	5.4800	0.0283	0.0400
Method Group 040.XX PCT			9	5.4533	0.1045	0.0511	9	5.4533	0.1045	0.0511
Dir Available Phosphate, Grav Quim	960.03E	041.10	15	5.5280	0.1575	0.0380	15	5.5280	0.1575	0.0380
Dir Available Phosphate, Spectrometric	960.03D	041.20	5	5.4051	0.1995	0.0492	5	5.4051	0.1995	0.0492
Dir Available Phosphate, Alka. Quim ...	960.03C	041.30	1	5.6000	0.0990	0.1400	1	5.6000	0.0990	0.1400
Dir Available Phosphate, Automated	978.01	041.40	4	5.4794	0.1689	0.0488	4	5.4794	0.1689	0.0488
Dir Available Phosphate, ICP		041.50	8	5.4200	0.1788	0.0538	8	5.4200	0.1788	0.0538
Dir Available Phosphate, EDTA Extract .	993.01	041.60	11	5.6138	0.1172	0.0462	11	5.6138	0.1172	0.0462
Dir Available Phosphate, Other		041.99	1	5.8200	0.0707	0.1000	1	5.8200	0.0707	0.1000
Method Group 041.XX PCT			45	5.5199	0.1759	0.0487	45	5.5199	0.1759	0.0487

Method	AOAC Ref.	Method Code	- Pass 1 Results for 86 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	- Pass 2 Results for 85 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Water Soluble Phosphate, Spectrometric	970.01	048.20	2	3.7675	0.1127	0.0050	2	3.7675	0.1127	0.0050
Water Soluble Phosphate, ICP		048.50	1	3.7500	0.0424	0.0600	1	3.7500	0.0424	0.0600
Water Soluble Phosphate, Other		048.99	3	3.6417	0.0799	0.0633	3	3.6417	0.0799	0.0633
Method Group 048.XX PCT			6	3.7017	0.1024	0.0433	6	3.7017	0.1024	0.0433
Soluble Potash, STPB Oxalate	958.02	050.00	18	18.091	0.2113	0.0717	17	18.093	0.2136	0.0565
Soluble Potash, STPB Citrate	969.04	050.10	1	18.190	0.0000	0.0000	1	18.190	0.0000	0.0000
Soluble Potash, AA (Oxalate)		050.30	9	18.074	0.6124	0.1401	8	18.097	0.6400	0.0889
Soluble Potash, ICP (Oxalate)		050.50	3	18.080	0.4792	0.1200	3	18.080	0.4792	0.1200
Soluble Potash, ICP (Citrate)		050.51	9	17.882	0.6882	0.2017	9	17.882	0.6882	0.2017
Soluble Potash, Flame (Oxalate)	983.02(a	050.60	6	18.213	0.2023	0.1267	6	18.213	0.2023	0.1267
Soluble Potash, Flame (Citrate)	983.02(b	050.61	7	18.337	0.3393	0.0771	7	18.337	0.3393	0.0771
Soluble Potash, Other		050.99	19	18.131	0.4589	0.1170	17	18.094	0.4601	0.0813
Method Group 050.XX PCT			74	18.079	0.4756	0.1180	69	18.075	0.4757	0.0914
Free Water, Vacuum Oven	965.08B	060.00	5	0.4723	0.0521	0.0176	5	0.4723	0.0521	0.0176
Acid Soluble Calcium, AA	945.04	101.00	16	5.1659	0.2485	0.0967	15	5.1697	0.2516	0.0779
Acid Soluble Calcium, ICP		101.30	19	5.1652	0.2438	0.0661	18	5.1752	0.2439	0.0526
Acid Soluble Calcium, Titrimetric	945.03	101.70	1	5.4220	0.0554	0.0783	1	5.4220	0.0554	0.0783
Acid Soluble Calcium, Other		101.99	1	5.0100	0.1980	0.2800	1	5.0100	0.1980	0.2800
Method Group 101.XX PCT			37	5.1682	0.2437	0.0855	34	5.1800	0.2456	0.0645
Acid Soluble Magnesium, AA	984.01	121.00	23	4.5399	0.2912	0.0730	23	4.5399	0.2912	0.0730
Acid Soluble Magnesium, ICP		121.30	18	4.5287	0.2982	0.0500	17	4.4897	0.2563	0.0412
Acid Soluble Magnesium, Titrimetric ...	964.01	121.70	2	4.7215	0.0862	0.0068	2	4.7215	0.0862	0.0068
Method Group 121.XX PCT			43	4.5436	0.2888	0.0603	40	4.5257	0.2750	0.0487
Water Soluble Magnesium, AA		131.00	6	4.2617	0.3058	0.0100	6	4.2617	0.3058	0.0100
Water Soluble Magnesium, ICP		131.30	3	3.9283	0.5953	0.0167	3	3.9283	0.5953	0.0167
Water Soluble Magnesium, Other		131.99	1	3.1150	0.1909	0.2700	1	3.1150	0.1909	0.2700
Method Group 131.XX PCT			10	4.0470	0.5237	0.0380	9	4.1506	0.4369	0.0122
Sulfur, Gravimetric	980.02a	144.01	11	13.961	0.4015	0.0906	11	13.961	0.4015	0.0906
Sulfur, Gravimetric	980.02b	144.02	1	14.525	0.0212	0.0300	1	14.525	0.0212	0.0300
Sulfur, Gravimetric	980.02c	144.03	1	13.725	0.0354	0.0500	1	13.725	0.0354	0.0500
Sulfur, Turbidimetric	63.845	144.50	1	11.515	0.5445	0.7700	1	11.515	0.5445	0.7700
Sulfur, Other		144.99	21	13.791	0.6348	0.1346	19	13.765	0.6543	0.0840
Method Group 144.XX PCT			36	13.740	0.7593	0.1347	33	13.790	0.6772	0.0863
Arsenic, ICP		151.30	5	5.3249	4.2379	0.3510	5	5.3249	4.2379	0.3510
Arsenic, Other		151.99	2	4.5025	1.1671	1.5550	2	4.5025	1.1671	1.5550
Method Group 151.XX PPM			7	5.0899	3.5912	0.6950	6	5.1624	3.8526	0.3425
Acid Soluble Boron, Spectrometric	982.01	165.00	10	0.0432	0.0062	0.0010	10	0.0432	0.0062	0.0010
Acid Soluble Boron, Other		165.99	11	0.0447	0.0057	0.0029	11	0.0447	0.0057	0.0029
Method Group 165.XX PCT			21	0.0440	0.0059	0.0020	21	0.0440	0.0059	0.0020

Method	AOAC Ref.	Method Code	- Pass 1 Results for 86 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	- Pass 2 Results for 85 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Water Soluble Boron, Other		171.99	1	0.0428	0.0003	0.0004	1	0.0428	0.0003	0.0004
Cadmium, Atomic Absorption		181.00	4	4.0588	1.0672	0.1525	3	3.9950	1.2450	0.0367
Cadmium, ICP		181.30	5	2.8018	0.6210	0.3776	5	2.8018	0.6210	0.3776
Cadmium, Other		181.99	1	3.1500	0.2121	0.3000	1	3.1500	0.2121	0.3000
Method Group 181.XX PPM			10	3.3394	0.9892	0.2798	10	3.3394	0.9892	0.2798
Water Soluble Chlorine, Titrimetric ...	928.02	190.00	14	2.1301	0.1184	0.0181	14	2.1301	0.1184	0.0181
Water Soluble Chlorine, Other		190.99	4	2.1397	0.0470	0.0233	4	2.1397	0.0470	0.0233
Method Group 190.XX PCT			19	2.1429	0.1140	0.0251	17	2.1515	0.0714	0.0198
Chromium, ICP		191.30	4	42.654	7.6513	3.2388	4	42.654	7.6513	3.2388
Acid Soluble Cobalt, AA		202.00	2	12.613	5.6581	0.5105	2	12.613	5.6581	0.5105
Acid Soluble Cobalt, ICP	965.11	202.30	7	8.6307	2.4430	0.7671	6	8.6192	2.5971	0.4617
Acid Soluble Cobalt, Other		202.99	1	15.000	0.0000	0.0000	1	15.000	0.0000	0.0000
Method Group 202.XX PPM			11	9.1537	4.6774	0.5901	10	9.1990	4.8968	0.3891
Acid Soluble Copper, Atomic Absorption	975.01	221.00	5	0.0062	0.0007	0.0002	5	0.0062	0.0007	0.0002
Acid Soluble Copper, ICP		221.30	9	0.0057	0.0006	0.0005	8	0.0057	0.0006	0.0003
Acid Soluble Copper, Other		221.99	2	0.0064	0.0011	0.0007	2	0.0064	0.0011	0.0007
Method Group 221.XX PCT			16	0.0060	0.0007	0.0005	15	0.0060	0.0007	0.0003
Acid Soluble Iron, Atomic Absorption ..	980.01	241.00	19	0.2269	0.0412	0.0046	18	0.2283	0.0417	0.0038
Acid Soluble Iron, ICP		241.30	21	0.2198	0.0335	0.0098	20	0.2185	0.0334	0.0077
Method Group 241.XX PCT			40	0.2231	0.0373	0.0073	38	0.2233	0.0375	0.0058
Lead, Atomic Absorption		251.00	1	10.434	0.0488	0.0690	1	10.434	0.0488	0.0690
Lead, ICP		251.30	5	11.874	0.8807	0.3990	5	11.874	0.8807	0.3990
Lead, Other		251.99	3	15.385	2.5101	1.5833	3	15.385	2.5101	1.5833
Method Group 251.XX PPM			10	13.371	2.8650	1.2314	9	12.884	2.4037	0.7571
Acid Soluble Manganese, AA	972.02a	261.00	18	0.1614	0.0105	0.0060	17	0.1604	0.0094	0.0051
Acid Soluble Manganese, AA	972.02b	261.11	2	0.1535	0.0038	0.0030	2	0.1535	0.0038	0.0030
Acid Soluble Manganese, ICP	972.02a	261.30	18	0.1571	0.0142	0.0040	19	0.1552	0.0159	0.0041
Acid Soluble Manganese, Other		261.99	2	0.1608	0.0116	0.0055	2	0.1608	0.0116	0.0055
Method Group 261.XX PCT			40	0.1591	0.0122	0.0049	39	0.1585	0.0118	0.0045
Water Soluble Manganese, Atomic Abs. ..	972.03	271.00	2	0.0575	0.0029	0.0000	2	0.0575	0.0029	0.0000
Water Soluble Manganese, ICP	972.03	271.30	2	0.0573	0.0142	0.0015	2	0.0573	0.0142	0.0015
Method Group 271.XX PCT			4	0.0574	0.0095	0.0008	4	0.0574	0.0095	0.0008
Mercury, Atomic Absorption		281.00	1	0.0710	0.0014	0.0020	1	0.0710	0.0014	0.0020
Mercury, ICP		281.30	1	0.0600	0.0141	0.0200	1	0.0600	0.0141	0.0200
Mercury, Other		281.99	2	0.0797	0.0182	0.0062	2	0.0797	0.0182	0.0062
Method Group 281.XX PPM			4	0.0726	0.0157	0.0086	4	0.0726	0.0157	0.0086
Molybdenum, Atomic Absorption		289.00	1	3.5555	0.0180	0.0255	1	3.5555	0.0180	0.0255
Molybdenum, ICP		289.30	5	4.9600	2.1709	0.1760	5	4.9600	2.1709	0.1760
Molybdenum, Other		289.99	1	5.3500	0.2121	0.3000	1	5.3500	0.2121	0.3000

Method	AOAC Ref.	Method Code	- Pass 1 Results for 86 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	- Pass 2 Results for 85 Labs - No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Method Group 289.XX PPM			7	4.8151	1.8896	0.1722	7	4.8151	1.8896	0.1722
Nickel, Atomic Absorption		291.00	1	20.301	0.0686	0.0970	1	20.301	0.0686	0.0970
Nickel, ICP		291.30	6	22.079	5.5436	0.5450	6	22.079	5.5436	0.5450
Nickel, Other		291.99	2	22.900	6.6818	2.5000	2	22.900	6.6818	2.5000
Method Group 291.XX PPM			9	22.064	5.3193	0.9297	8	22.659	5.3038	0.5459
Selenium, ICP		301.30	1	3.2000	0.1414	0.2000	1	3.2000	0.1414	0.2000
Selenium, Other		301.99	1	0.3600	0.1414	0.2000	1	0.3600	0.1414	0.2000
Method Group 301.XX PPM			2	1.7800	1.6437	0.2000	2	1.7800	1.6437	0.2000
Sodium, Atomic Absorption	983.04	311.00	1	0.4000	0.0000	0.0000	1	0.4000	0.0000	0.0000
Sodium, Other		311.99	5	0.4464	0.0626	0.0103	5	0.4464	0.0626	0.0103
Method Group 311.XX PCT			6	0.4387	0.0595	0.0086	6	0.4387	0.0595	0.0086
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	22	0.1480	0.0090	0.0039	21	0.1479	0.0089	0.0031
Acid Soluble Zin, ICP		321.30	22	0.1476	0.0122	0.0034	21	0.1475	0.0124	0.0029
Acid Soluble Zinc, Other		321.99	2	0.1507	0.0107	0.0002	2	0.1507	0.0107	0.0002
Method Group 321.XX PCT			46	0.1479	0.0106	0.0035	44	0.1479	0.0107	0.0029
Water Soluble Zinc, ICP		325.30	1	0.0265	0.0035	0.0050	1	0.0265	0.0035	0.0050

MAGRUDER - Fertilizer Check Sample No. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 001.10 --	
372	3.3300	1.94
320	3.2350	1.10
234	3.2100	.78
029	3.1750	.44
416	3.1478	.17
Avg	3.1303	
397	3.1258	-.04
200	3.1300	-.10
351	3.1140	-.16
028	3.0850	-.46
415	3.0460	-.83
395	3.0400	-.87
251	3.0650 R	-.96
309	2.9250	-2.00
--	Method 001.99 --	
247	3.4300 s	4.62
300	3.1950	1.29
394	3.2000	1.08
096	3.1800	.79
289	3.1600	.57
396	3.1500	.34
Avg	3.1267	
405	3.0900	-.56
193	3.0850	-.65
030	3.0500	-1.35
363	3.0300	-1.43
409	2.1350 s	-14.63
--	Method 001.XX --	
247	3.4300 s	3.51
372	3.3300	2.27
320	3.2350	1.30
300	3.1950	.97
234	3.2100	.92
394	3.2000	.80
096	3.1800	.58
029	3.1750	.52
--	Method 001.XX --	
289	3.1600	.42
396	3.1500	.24
416	3.1478	.21
200	3.1300	.11
Avg	3.1287	
397	3.1258	-.03
351	3.1140	-.17
405	3.0900	-.45
028	3.0850	-.52
193	3.0850	-.52
415	3.0460	-.94
395	3.0400	-1.00
030	3.0500	-1.05
251	3.0650 R	-1.11
363	3.0300	-1.12
309	2.9250	-2.31
409	2.1350 s	-11.20
--	Method 002.20 --	
029	3.2400	.96
234	3.1400	.51
415	3.0617	.09
Avg	3.0442	
028	2.7350	-1.52
--	Method 002.99 --	
395	3.1800	1.61
392	3.1000	1.01
360	3.0850	.90
300	3.0600 R	.88
396	3.0800	.86
288	2.9950	.22
397	2.9898	.20
394	2.9750	.20
Avg	2.9662	
030	2.9000	-.50
289	2.9000	-.63
405	2.8700	-.73
--	Method 002.99 --	
247	2.8000	-1.26
251	2.7200	-1.86
--	Method 002.XX --	
029	3.2400	1.66
395	3.1800	1.26
234	3.1400	1.04
392	3.1000	.74
300	3.0600 R	.66
360	3.0850	.65
396	3.0800	.62
415	3.0617	.49
397	2.9898	.09
288	2.9950	.07
Avg	2.9857	
394	2.9750	-.18
030	2.9000	-.56
289	2.9000	-.65
405	2.8700	-.76
247	2.8000	-1.21
028	2.7350	-1.63
251	2.7200	-1.73
--	Method 005.99 --	
415	45.864	.71
--	Method 008.10 --	
415	1.1597	.71
--	Method 009.10 --	
200	6.3200	1.71
392	6.2500	.76
396	6.2350	.56
395	6.2200	.35
Avg	6.1940	
090	6.1750	-.42
416	6.1363	-.79
397	6.1156	-1.08
--	Method 009.10 --	
030	6.1000	-1.27
309	5.7250 s	-6.35
--	Method 010.11 --	
322	6.8675 S	11.74
029	6.2700	1.18
414	6.2350	.84
Avg	6.2030	
028	6.1950	-.17
148	6.1700	-.61
363	6.1450	-1.41
288	3.0900 S	-55.02
--	Method 010.12 --	
162	6.3500	1.19
137	6.3150	.82
185	6.3000	.68
Avg	6.2220	
351	6.1920	-.28
326	6.1150	-.94
102	6.0600	-1.41
--	Method 010.17 --	
415	6.3838	-.71
--	Method 010.60 --	
402	6.7450 s	5.09
025	6.7750 S	4.14
095	6.5500	2.33
324	6.4350	1.39
043	6.3950	1.32
381	6.3630 R	1.31
037	6.4200	1.28
029	6.4150	1.24
007	6.4000	1.11
131	6.3700	1.03
390	6.3450	1.02
372	6.3700	.87
--	Method 010.60 --	
394	6.3600	.85
096	6.3500	.71
057	6.2750	.69
369	6.2900	.61
041	6.3300	.57
361	6.3250	.54
251	6.3150	.51
027	6.2950	.45
247	6.2650	.45
377	6.3000	.34
330	6.3000	.30
325	6.2950	.29
401	6.2850	.27
070	6.2900	.23
040	6.2850	.18
356	6.2650	.04
028	6.2650	.04
Avg	6.2630	
106	6.2600	-.02
136	6.2450	-.19
296	6.2350	-.23
230	6.2600	-.24
360	6.2500	-.26
049	6.2250	-.37
055	6.2200	-.42
409	6.1950	-.59
262	6.1900	-.59
023	6.1900	-.67
292	6.1650	-.95
035	6.1800	-1.05
009	6.1300	-1.08
234	6.2200 R	-1.34
389	6.1000	-1.38
232	6.0900	-1.40
334	6.0830	-1.46
024	6.0850	-1.47
142	5.9950	-2.17
233	5.9450	-2.58

* 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. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 010.60 --	
376	5.6500 s	-4.98
383	5.5350 s	-5.90
393	4.8190 s	-11.68
--	Method 010.99 --	
211	6.8800 S	5.85
362	6.2850	1.17
300	6.2750	1.07
307	6.1900	.41
Avg	6.1395	
153	6.0881	-.41
177	6.0390	-.79
405	5.9600	-1.43
--	Method 010.XX --	
402	6.7450 s	5.16
211	6.8800 s	5.09
322	6.8675 s	4.99
025	6.7750 s	4.25
095	6.5500	2.46
324	6.4350	1.52
043	6.3950	1.42
037	6.4200	1.41
381	6.3630 R	1.39
029	6.4150	1.37
007	6.4000	1.24
415	6.3838	1.15
131	6.3700	1.15
390	6.3450	1.10
372	6.3700	1.00
394	6.3600	.97
162	6.3500	.93
096	6.3500	.84
057	6.2750	.72
041	6.3300	.70
361	6.3250	.67
369	6.2900	.67
251	6.3150	.62
--	Method 010.XX --	
137	6.3150	.57
027	6.2950	.54
247	6.2650	.47
377	6.3000	.47
330	6.3000	.44
185	6.3000	.44
325	6.2950	.42
362	6.2850	.38
401	6.2850	.38
070	6.2900	.37
040	6.2850	.32
230	6.2600	.27
360	6.2500	.24
300	6.2750	.24
029	6.2700	.20
028	6.2650	.16
356	6.2650	.16
106	6.2600	.12
Avg	6.2455	
296	6.2350	-.09
136	6.2450	-.12
049	6.2250	-.26
414	6.2350	-.29
055	6.2200	-.32
028	6.1950	-.41
351	6.1920	-.44
262	6.1900	-.45
409	6.1950	-.45
307	6.1900	-.45
023	6.1900	-.55
148	6.1700	-.61
292	6.1650	-.83
363	6.1450	-.92
009	6.1300	-.93
035	6.1800 R	-.96
326	6.1150	-1.05
389	6.1000	-1.23
232	6.0900	-1.25
--	Method 010.XX --	
153	6.0881	-1.26
234	6.2200 R	-1.30
334	6.0830	-1.30
024	6.0850	-1.32
102	6.0600	-1.49
177	6.0390	-1.66
142	5.9950	-2.01
405	5.9600	-2.30
233	5.9450	-2.41
376	6.6500 s	-4.80
383	5.5350 s	-5.71
393	4.8190 s	-11.45
288	3.0900 s	-25.32
--	Method 020.10 --	
162	5.7700	1.28
300	5.7300	.75
090	5.7000	.50
095	5.7050	.49
Avg	5.6836	
414	5.6700	-.49
148	5.6500	-.52
395	5.5600	-1.82
--	Method 020.20 --	
381	6.4400 s	9.68
376	5.9250	2.76
324	5.7350 R	1.50
372	5.7450	.93
292	5.7100	.59
392	5.7100	.58
369	5.6600	.51
363	5.7000	.48
247	5.6600	.22
362	5.6600	.08
Avg	5.6519	
200	5.6350	-.23
096	5.6200	-.32
--	Method 020.20 --	
309	5.6250	-.37
334	5.5850	-.67
106	5.5800	-.72
356	5.5750	-.85
397	5.5601	-.92
232	5.4800	-1.72
383	4.9800 s	-6.75
--	Method 020.30 --	
416	5.6375	.71
Avg	5.6375	
330	5.4850 S	-56.89
--	Method 020.40 --	
035	5.8200 R	2.51
142	5.7250	1.21
394	5.6750	.78
320	5.6350	.28
409	5.6150	.09
Avg	5.6083	
193	5.5500	-.79
289	5.4500	-1.65
--	Method 020.50 --	
402	5.7300	1.00
389	5.7150	.77
Avg	5.6675	
361	5.6500	-.38
396	5.5750	-1.33
--	Method 020.99 --	
307	5.8600	1.06
153	5.6982	.17
Avg	5.6661	
405	5.4400	-1.16
--	Method 020.XX --	
381	6.4400 s	10.21
--	Method 020.XX --	
376	5.9250	2.94
307	5.8600 R	2.39
035	5.8200 R	2.21
324	5.7350 R	1.61
162	5.7700	1.29
372	5.7450	1.03
402	5.7300	.92
300	5.7300	.89
142	5.7250	.83
389	5.7150	.76
292	5.7100	.67
095	5.7050	.66
392	5.7100	.66
090	5.7000	.64
363	5.7000	.55
369	5.6600	.54
153	5.6982	.54
394	5.6750	.47
414	5.6700	.39
247	5.6600	.25
361	5.6500	.21
362	5.6600	.13
148	5.6500	.11
Avg	5.6475	
416	5.6375	-.11
320	5.6350	-.14
200	5.6350	-.21
096	5.6200	-.29
409	5.6150	-.35
309	5.6250	-.35
334	5.5850	-.66
106	5.5800	-.71
396	5.5750	-.76
356	5.5750	-.85
395	5.5600	-.92
397	5.5601	-.92
193	5.5500	-1.15
232	5.4800	-1.77

* 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. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 020.XX --	
289	5.4500	-2.09
405	5.4400	-2.22
330	5.4850 s	-3.27
383	4.9800 s	-7.04
--	Method 030.10 --	
090	0.1000	.78
Avg	0.0925	
320	0.0850	-.94
--	Method 030.20 --	
247	0.1800	.94
096	0.1850	.89
Avg	0.1100	
106	0.0750	-.41
395	0.0000	-1.28
--	Method 030.40 --	
409	0.2350	1.07
Avg	0.2300	
193	0.2250	-.60
--	Method 030.XX --	
409	0.2350	1.30
193	0.2250	1.11
247	0.1800	.71
096	0.1850	.62
Avg	0.1356	
090	0.1000	-.43
320	0.0850	-.61
106	0.0750	-.73
395	0.0000	-1.62
--	Method 040.10 --	
090	5.6000	.71
--	Method 040.20 --	
395	5.5600	1.05
106	5.5050	.12
Avg	5.5000	
096	5.4350	-1.17
--	Method 040.40 --	
394	5.4900	1.51
409	5.3800	.54
Avg	5.3750	
193	5.3250	-.60
289	5.3050	-.76
--	Method 040.99 --	
247	5.4800	-.71
--	Method 040.XX --	
090	5.6000	1.43
395	5.5600	1.02
394	5.4900	.84
106	5.5050	.50
247	5.4800	.32
Avg	5.4533	
096	5.4350	-.23
409	5.3800	-.85
193	5.3250	-1.25
289	5.3050	-1.42
--	Method 041.10 --	
137	5.9500	2.68
041	5.7600	1.49
028	5.6500	.78
414	5.5350	.35
057	5.5800	.34
Avg	5.5280	
029	5.5250	-.04
296	5.5150	-.13
322	5.4968	-.21
177	5.4835	-.29
055	5.4550	-.54
--	Method 041.10 --	
040	5.4200	-.69
131	5.4200	-.70
009	5.3900	-.90
211	5.3850	-.91
326	5.3550	-1.11
136	4.2850 s	-7.89
--	Method 041.20 --	
362	5.6250	1.12
397	5.5168	.56
030	5.4500	.34
Avg	5.4051	
363	5.3600	-.25
415	5.0736	-1.66
--	Method 041.30 --	
260	5.6000	.71
--	Method 041.40 --	
025	6.0900 S	3.62
049	5.7000	1.35
029	5.5300	.31
Avg	5.4794	
131	5.4050	-.46
027	5.2825	-1.17
--	Method 041.50 --	
007	6.1000 S	3.84
023	5.7950	2.10
361	5.5250	.59
070	5.4650	.27
Avg	5.4200	
325	5.4000	-.13
360	5.3650	-.40
251	5.3250	-.61
102	5.2750	-.86
393	5.2100	-1.18
--	Method 041.60 --	
262	5.8800	2.30
296	5.6900	.66
377	5.6500	.53
043	5.6200	.43
028	5.6350	.19
288	5.6200	.18
397	5.6266	.14
Avg	5.6138	
177	5.5890	-.21
037	5.5150	-.85
351	5.4665	-1.26
095	5.4600	-1.38
--	Method 041.99 --	
401	5.8200	-.71
--	Method 041.XX --	
007	6.1000 s	3.35
025	6.0900 s	3.24
137	5.9500	2.45
262	5.8800	2.06
401	5.8200	1.73
023	5.7950	1.57
041	5.7600	1.38
049	5.7000	1.08
296	5.6900	.97
377	5.6500	.79
028	5.6500	.74
028	5.6350	.66
043	5.6200	.64
362	5.6250	.63
397	5.6266	.61
260	5.6000	.60
288	5.6200	.58
177	5.5890	.39
057	5.5800	.35
414	5.5350	.32
361	5.5250	.09
--	Method 041.XX --	
029	5.5300	.08
029	5.5250	.04
Avg	5.5199	
397	5.5168	-.08
037	5.5150	-.09
296	5.5150	-.09
322	5.4968	-.15
177	5.4835	-.22
351	5.4665	-.30
070	5.4650	-.32
095	5.4600	-.44
055	5.4550	-.45
030	5.4500	-.49
040	5.4200	-.57
131	5.4200	-.58
131	5.4050	-.67
325	5.4000	-.68
009	5.3900	-.76
211	5.3850	-.77
363	5.3600	-.92
360	5.3650	-.92
326	5.3550	-.95
251	5.3250	-1.15
027	5.2825	-1.35
102	5.2750	-1.42
393	5.2100	-1.76
415	5.0736	-2.54
136	4.2850 s	-7.02
--	Method 048.20 --	
395	3.8650	.87
Avg	3.7675	
362	3.6700	-.87
193	3.0500 S	-6.38
--	Method 048.50 --	
396	3.7500	.71

* 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. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 048.99 --	
275	16.320 S	158.77
247	3.7200	1.32
Avg	3.6417	
363	3.6300	-.19
394	3.5750	-.86
--	Method 048.XX --	
275	16.320 s	123.22
395	3.8650	1.60
247	3.7200	.71
396	3.7500	.56
Avg	3.7017	
362	3.6700	-.31
363	3.6300	-.71
394	3.5750	-1.25
193	3.0500 s	-6.38
--	Method 050.00 --	
416	18.501	1.91
095	18.370	1.31
057	18.250	.79
009	18.240	.69
043	18.225	.69
090	18.210	.62
029	18.170	.36
345	18.130	.18
028	18.110	.12
Avg	18.093	
148	18.050	-.21
055	18.065	-.21
326	18.030	-.30
211	18.020	-.35
300	17.965	-.60
162	18.055 R	-.79
392	17.840	-1.18
296	17.735	-1.70
372	17.665	-2.01
193	17.160 s	-4.43
--	Method 050.00 --	
131	16.540 s	-7.48
--	Method 050.10 --	
322	18.190	.00
--	Method 050.30 --	
137	19.300	1.88
381	18.813	1.12
397	18.194	.22
Avg	18.097	
142	17.990	-.17
234	17.755	-.54
106	17.885 R	-.54
095	17.750	-.55
136	17.705	-.62
351	17.274	-1.29
309	16.225 S	-2.93
--	Method 050.50 --	
324	18.670	1.24
Avg	18.080	
292	17.925	-.33
402	17.645	-.92
--	Method 050.51 --	
023	18.605	1.06
007	18.400	.81
070	18.425	.80
377	18.400	.77
361	18.355	.69
Avg	17.882	
251	17.515	-.70
102	17.363	-.76
389	17.150	-1.07
393	16.725	-1.68
--	Method 050.60 --	
390	18.505	1.50
--	Method 050.60 --	
200	18.315	.51
356	18.300	.45
Avg	18.213	
289	18.120	-.71
396	18.025	-.93
288	18.015	-1.19
415	14.824 S	-16.75
--	Method 050.61 --	
030	18.950	1.81
029	18.565	.67
035	18.405	.23
Avg	18.337	
037	18.275	-.29
028	18.195	-.42
049	18.105	-.72
025	17.865	-1.39
041	16.930 s	-4.15
--	Method 050.99 --	
275	32.795 s	31.95
360	19.020	2.01
307	18.705	1.33
262	18.660 R	1.32
401	18.550	1.04
153	18.396	.66
369	18.230 R	.53
260	18.325	.52
376	18.195	.22
325	18.190	.21
363	18.115	.13
Avg	18.094	
247	18.060	-.08
177	18.049	-.10
232	18.040	-.12
383	17.935	-.35
362	17.870 X	-.49
405	17.825	-.59
--	Method 050.99 --	
027	17.835	-.62
395	17.515	-1.26
394	16.965	-2.46
--	Method 050.XX --	
275	32.795 s	30.94
137	19.300	2.57
360	19.020	1.99
030	18.950	1.84
381	18.813	1.55
307	18.705	1.33
262	18.660 R	1.31
324	18.670	1.26
023	18.605	1.13
401	18.550	1.05
029	18.565	1.03
390	18.505	.92
416	18.501	.90
007	18.400 R	.80
070	18.425	.76
377	18.400	.71
035	18.405	.70
153	18.396	.68
095	18.370	.62
361	18.355	.59
260	18.325	.54
369	18.230 R	.53
200	18.315	.51
356	18.300	.48
037	18.275	.45
057	18.250	.39
009	18.240	.35
043	18.225	.34
397	18.194	.33
090	18.210	.31
028	18.195	.25
376	18.195	.25
289	18.120	.25
--	Method 050.XX --	
325	18.190	.25
322	18.190	.24
029	18.170	.20
049	18.105	.17
363	18.115	.14
345	18.130	.12
028	18.110	.08
Avg	18.075	
247	18.060	-.04
148	18.050	-.06
177	18.049	-.06
055	18.065	-.08
232	18.040	-.08
326	18.030	-.10
396	18.025	-.11
211	18.020	-.12
142	17.990	-.19
300	17.965	-.23
383	17.935	-.30
288	18.015	-.31
292	17.925	-.32
162	18.055	-.35
362	17.870 X	-.44
025	17.865	-.44
392	17.840	-.49
405	17.825	-.53
027	17.835	-.56
234	17.755	-.68
095	17.750	-.69
106	17.885 R	-.70
296	17.735	-.73
136	17.705	-.78
372	17.665	-.87
402	17.645	-.92
395	17.515	-1.18
251	17.515 R	-1.35
102	17.363	-1.50
351	17.274	-1.69

* 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. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 050.XX --	
389	17.150	-1.95
193	17.160	-1.95
394	16.965	-2.34
041	16.930	-2.41
393	16.725	-2.84
131	16.540 s	-3.32
309	16.225 s	-3.89
415	14.824 s	-6.83
--	Method 060.00 --	
320	0.6350 s	3.62
416	0.5415	1.33
363	0.4950	.52
361	0.4900	.39
Avg	0.4723	
193	0.4200	-1.01
362	0.4150	-1.14
--	Method 101.00 --	
028	5.5750	1.62
137	5.5200	1.39
043	5.4100	.98
395	5.3100	.56
055	5.2950	.51
177	5.2010	.15
Avg	5.1697	
037	5.1600	-.04
040	5.1550	-.08
136	5.1650	-.10
106	5.1500	-.14
029	5.1350	-.17
351	4.9995	-.68
397	5.1090 R	-.79
289	4.9750	-.92
296	4.9300	-.99
095	4.5650	-2.45
--	Method 101.30 --	
360	5.4900	1.30
393	5.4700 X	1.21
035	5.4600	1.17
361	5.3950	.91
409	5.3550	.74
247	5.3000	.55
330	5.2750	.42
057	5.2416	.33
396	5.2300	.24
324	5.2150	.17
009	5.1936	.09
Avg	5.1752	
102	5.1733	-.26
376	5.0500	-.55
300	5.0100	-.68
394	4.9700	-.84
023	4.9850 R	-1.01
251	4.8950	-1.15
389	4.8800	-1.21
292	4.5500	-2.57
193	3.3500 s	-7.49
--	Method 101.70 --	
415	5.4220	.71
--	Method 101.99 --	
131	5.0100	.71
--	Method 101.XX --	
028	5.5750	1.62
137	5.5200	1.39
360	5.4900	1.27
393	5.4700 X	1.18
035	5.4600	1.14
415	5.4220	1.00
043	5.4100	.96
361	5.3950	.88
409	5.3550	.72
--	Method 101.XX --	
247	5.3000	.53
395	5.3100	.53
055	5.2950	.48
330	5.2750	.40
057	5.2416	.31
396	5.2300	.22
324	5.2150	.15
177	5.2010	.12
009	5.1936	.07
Avg	5.1800	
037	5.1600	-.08
136	5.1650	-.12
040	5.1550	-.12
106	5.1500	-.17
029	5.1350	-.21
102	5.1733	-.26
376	5.0500	-.57
300	5.0100	-.70
351	4.9995	-.74
397	5.1090 R	-.82
394	4.9700	-.86
131	5.0100 R	-.90
289	4.9750	-.98
023	4.9850 R	-1.01
296	4.9300	-1.06
251	4.8950	-1.16
389	4.8800	-1.22
095	4.5650	-2.56
292	4.5500	-2.57
193	3.3500 s	-7.45
--	Method 121.00 --	
392	5.0300	1.69
055	5.0250	1.67
028	5.0200	1.65
381	4.7885	.94
037	4.7050	.57
397	4.6282	.45
395	4.6600	.41
369	4.6350	.38
029	4.6300	.31
043	4.6200	.29
106	4.6050	.22
177	4.5955	.19
Avg	4.5399	
040	4.5375	-.06
137	4.5100	-.11
296	4.4700	-.39
351	4.4135	-.43
234	4.4150	-.48
136	4.3600	-.62
095	4.3700	-.70
262	4.2400	-1.05
289	4.2250	-1.08
200	4.1350 X	-1.39
309	3.8000	-2.54
--	Method 121.30 --	
360	5.1900 R	2.76
035	4.8700	1.48
232	4.7600	1.06
247	4.7100	.87
102	4.6552	.65
389	4.6250	.54
023	4.6100	.47
394	4.5550	.31
057	4.5610	.30
330	4.5600	.28
251	4.5500	.24
Avg	4.4897	
009	4.4895	-.07
361	4.4600	-.12
396	4.3900	-.41
324	4.3850	-.42
292	4.3250	-.65
376	3.9700	-2.04
393	3.8500	-2.50
320	1.9245 s	-10.01
--	Method 121.70 --	
415	4.7961	.87
Avg	4.7215	
416	4.6470	-.87
--	Method 121.XX --	
360	5.1900 R	2.44
392	5.0300	1.84
055	5.0250	1.82
028	5.0200	1.80
035	4.8700	1.25
381	4.7885 R	1.04
415	4.7961	.98
232	4.7600	.85
247	4.7100	.69
037	4.7050	.66
397	4.6282	.51
395	4.6600	.49
102	4.6552	.48
369	4.6350	.44
416	4.6470	.44
029	4.6300	.38
389	4.6250	.37
043	4.6200	.36
023	4.6100	.31
106	4.6050	.29
177	4.5955	.25
394	4.5550	.20
057	4.5610	.16
330	4.5600	.13
251	4.5500	.09
040	4.5375	.07
Avg	4.5257	
137	4.5100	-.07
009	4.4895	-.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 121.XX --	
361	4.4600	-.24
296	4.4700	-.38
351	4.4135	-.41
234	4.4150	-.47
396	4.3900	-.51
324	4.3850	-.52
136	4.3600	-.60
095	4.3700 R	-.69
292	4.3250	-.74
262	4.2400	-1.06
289	4.2250	-1.10
200	4.1350 X	-1.42
376	3.9700	-2.03
393	3.8500	-2.46
309	3.8000	-2.64
320	1.9245 s	-9.46
--	Method 131.00 --	
106	4.5100	.81
395	4.5000	.78
029	4.4850	.73
234	4.2850	.09
Avg	4.2617	
289	4.0900	-.56
309	3.7000	-1.84
--	Method 131.30 --	
396	4.3200	.66
360	4.3050	.63
Avg	3.9283	
393	3.1600	-1.29
--	Method 131.99 --	
040	3.1150	-.71
--	Method 131.XX --	
106	4.5100	.82
395	4.5000	.80

Lab	Average*	Index
--	Method 131.XX --	
029	4.4850	.77
396	4.3200	.39
360	4.3050	.36
234	4.2850	.31
Avg	4.1506	
289	4.0900	-.14
309	3.7000	-1.03
393	3.1600	-2.27
040	3.1150 R	-2.39
--	Method 144.01 --	
043	14.495	1.34
095	14.415	1.13
296	14.390	1.09
251	14.135	.53
055	14.115	.38
Avg	13.961	
137	13.945	-.12
395	13.810	-.38
070	13.790	-.43
193	13.715	-.61
102	13.647	-.78
351	13.116	-2.11
397	11.692 s	-5.66
--	Method 144.02 --	
292	14.525	.71
--	Method 144.03 --	
361	13.725	.71
Avg	13.725	
372	7.8900 S-165.04	
--	Method 144.50 --	
289	11.515	.71
--	Method 144.99 --	
035	15.100	2.05

Lab	Average*	Index
--	Method 144.99 --	
288	14.405	.98
247	14.375	.93
324	14.235	.72
023	14.115 R	.66
360	13.960 R	.63
232	14.160 X	.60
136	14.068	.46
394	13.990	.35
401	13.965	.31
405	13.950	.29
330	13.935	.28
040	13.825	.09
Avg	13.765	
376	13.690	-.12
389	13.650	-.19
396	13.605	-.25
009	13.528	-.45
028	13.395	-.57
409	12.695	-1.64
177	12.555	-1.85
393	12.415 X	-2.06
131	8.7270 s	-7.70
--	Method 144.XX --	
035	15.100	1.94
292	14.525	1.09
043	14.495	1.05
095	14.415	.92
288	14.405	.91
296	14.390	.90
247	14.375	.87
324	14.235	.66
023	14.115 R	.61
360	13.960 R	.59
232	14.160 X	.55
251	14.135	.54
055	14.115	.48
136	14.068	.41

Lab	Average*	Index
--	Method 144.XX --	
394	13.990	.30
401	13.965	.26
405	13.950	.25
137	13.945	.24
040	13.825	.06
070	13.790	.04
395	13.810	.03
Avg	13.790	
361	13.725	-.10
193	13.715	-.11
376	13.690	-.15
102	13.647	-.21
389	13.650	-.22
396	13.605	-.28
009	13.528	-.46
028	13.395	-.59
351	13.116	-1.00
409	12.695	-1.62
177	12.555	-1.82
393	12.415 X	-2.03
397	11.692	-3.10
289	11.515 R	-3.41
131	8.7270 s	-7.48
372	7.8900 s	-8.71
--	Method 151.30 --	
232	13.000	1.81
Avg	5.3249	
247	4.8500	-.12
102	4.1995	-.27
096	3.2000	-.50
009	1.3750	-.93
--	Method 151.99 --	
040	4.6550	1.21
Avg	4.5025	
409	4.3500	-.18

Lab	Average*	Index
--	Method 151.XX --	
232	13.000	2.04
Avg	5.1624	
247	4.8500	-.09
409	4.3500	-.21
102	4.1995	-.25
040	4.6550 R	-.39
096	3.2000	-.51
009	1.3750	-.98
--	Method 165.00 --	
137	0.0700 s	4.34
397	0.0599 s	3.38
292	0.0520	1.43
029	0.0480	.78
289	0.0470	.64
028	0.0455	.38
392	0.0435	.25
040	0.0445	.22
Avg	0.0432	
057	0.0426	-.13
023	0.0425	-.14
037	0.0375	-.93
055	0.0290	-2.30
--	Method 165.99 --	
324	0.0513	1.29
396	0.0510	1.11
009	0.0486	.72
360	0.0475	.50
394	0.0469	.49
035	0.0465	.42
Avg	0.0447	
300	0.0440	-.37
232	0.0418	-.53
409	0.0415	-.71
251	0.0400	-.83
376	0.0325	-2.19

* 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. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 165.XX --	
137	0.0700 s	4.42
397	0.0599 s	3.43
292	0.0520	1.36
324	0.0513	1.35
396	0.0510	1.18
009	0.0486	.81
029	0.0480	.68
360	0.0475	.60
394	0.0469	.57
289	0.0470	.54
035	0.0465	.50
300	0.0440	.34
028	0.0455	.27
040	0.0445	.12
Avg	0.0440	
057	0.0426	-.25
023	0.0425	-.27
392	0.0435	-.27
232	0.0418	-.40
409	0.0415	-.60
251	0.0400	-.68
037	0.0375	-1.10
376	0.0325	-2.00
055	0.0290	-2.55
--	Method 171.99 --	
396	0.0428	.71
--	Method 181.00 --	
037	5.5850	1.28
193	4.2500 R	.29
Avg	3.9950	
394	3.4000	-.48
300	3.0000	-.80
--	Method 181.30 --	
376	7.1650 S	7.03
232	3.2850	.91
--	Method 181.30 --	
102	3.2790	.77
035	2.8450	.17
Avg	2.8018	
324	2.8000	-.64
247	1.8000	-1.62
--	Method 181.99 --	
409	3.1500	.71
--	Method 181.XX --	
376	7.1650 s	3.87
037	5.5850	2.27
193	4.2500	.95
394	3.4000	.06
Avg	3.3394	
102	3.2790	-.08
409	3.1500	-.24
232	3.2850	-.30
300	3.0000	-.34
035	2.8450	-.51
324	2.8000	-.68
247	1.8000	-1.56
--	Method 190.00 --	
137	2.9200 s	6.67
234	2.7300 s	5.15
043	2.2900	1.36
029	2.2800	1.27
102	2.2312	.85
300	2.1900	.51
055	2.1800	.45
023	2.1550	.30
392	2.1450	.13
Avg	2.1301	
057	2.1300	.00
136	2.1300	-.08
394	2.1050	-.22
028	2.0800	-.46
--	Method 190.00 --	
200	2.0650 X	-.55
027	2.0350	-.81
395	1.8050	-2.74
396	1.1600 s	-8.19
--	Method 190.99 --	
040	2.3350 s	4.38
397	2.1964	1.22
288	2.1550	.81
Avg	2.1397	
009	2.1175	-.47
360	2.0900	-1.06
--	Method 190.XX --	
137	2.9200 s	10.77
234	2.7300 s	8.25
040	2.3350 R	2.73
043	2.2900	1.96
029	2.2800	1.80
102	2.2312	1.12
397	2.1964	.65
300	2.1900	.54
288	2.1550	.49
055	2.1800	.49
023	2.1550	.35
Avg	2.1515	
392	2.1450	-.11
057	2.1300	-.30
136	2.1300	-.33
009	2.1175	-.48
394	2.1050	-.65
360	2.0900	-.86
028	2.0800	-1.04
200	2.0650 X	-1.21
027	2.0350	-1.64
395	1.8050 A	-4.85
396	1.1600 s	-13.89
--	Method 191.30 --	
009	52.490	1.29
102	42.777	.20
Avg	42.654	
035	42.350	-.44
247	33.000	-1.27
--	Method 202.00 --	
106	17.500	.87
Avg	12.613	
397	7.7255	-.86
--	Method 202.30 --	
009	13.720	1.96
324	8.7000 R	.50
035	9.3250	.38
Avg	8.6192	
096	8.0000	-.24
040	7.4000	-.51
232	6.8700	-.67
247	6.4000	-.86
320	0.0500 s	-3.30
--	Method 202.99 --	
409	15.000	.00
--	Method 202.XX --	
106	17.500	1.70
409	15.000	1.18
009	13.720	.92
035	9.3250	.14
Avg	9.1990	
096	8.0000	-.24
324	8.7000 R	-.28
397	7.7255	-.30
040	7.4000	-.38
232	6.8700	-.48
247	6.4000	-.57
320	0.0500	-1.87
--	Method 221.00 --	
193	0.0705 s	92.63
029	0.0070	1.18
106	0.0069	1.04
Avg	0.0062	
028	0.0059	-.59
095	0.0055	-.91
397	0.0056	-.92
--	Method 221.30 --	
402	0.0105 S	8.58
251	0.0100 S	7.64
396	0.0060 R	1.85
330	0.0065	1.41
247	0.0063	1.06
009	0.0059	.72
232	0.0059	.70
Avg	0.0057	
035	0.0056	-.41
040	0.0054	-.57
324	0.0051	-1.19
096	0.0051	-1.22
102	0.0000 S	-10.20
--	Method 221.99 --	
409	0.0073	.82
Avg	0.0064	
376	0.0055	-.91
--	Method 221.XX --	
193	0.0705 s	89.47
402	0.0105 s	6.33
251	0.0100 s	5.60
409	0.0073	1.87
029	0.0070	1.44
396	0.0060 R	1.39
106	0.0069	1.31
330	0.0065	.76
247	0.0063	.49

* 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. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 221.XX --	
Avg	0.0060	
028	0.0059	-.42
009	0.0059	-.46
232	0.0059	-.50
035	0.0056	-.57
095	0.0055	-.58
397	0.0056	-.59
040	0.0054	-.78
376	0.0055	-.94
324	0.0051	-1.27
096	0.0051	-1.28
102	0.0000 s	-8.27
--	Method 241.00 --	
137	0.2900	1.48
055	0.2850	1.36
037	0.2710	1.02
029	0.2640	.86
106	0.2600	.76
351	0.2466	.44
296	0.2395	.31
095	0.2405	.29
136	0.2390	.26
397	0.2301	.08
177	0.2315	.08
Avg	0.2283	
028	0.2190	-.23
289	0.2170	-.27
043	0.2100	-.44
193	0.2000	-.68
369	0.2000 R	-.72
381	0.1835	-1.09
395	0.1500	-1.88
040	0.1335	-2.27
--	Method 241.30 --	
251	0.3450 s	3.81
361	0.2800	1.84
409	0.2600	1.28
330	0.2450 R	1.09
324	0.2500	.94
131	0.2495	.94
232	0.2450	.81
057	0.2417	.71
394	0.2370	.57
023	0.2310	.46
035	0.2335	.46
389	0.2250	.25
247	0.2230	.14
Avg	0.2185	
360	0.2095	-.28
009	0.2100	-.36
292	0.2000	-.55
376	0.2000	-.55
102	0.1944	-.81
402	0.1865	-.97
396	0.1780	-1.21
300	0.1700	-1.45
320	0.1460	-2.17
--	Method 241.XX --	
251	0.3450 s	3.27
137	0.2900	1.78
055	0.2850	1.65
361	0.2800	1.51
037	0.2710	1.27
029	0.2640	1.09
409	0.2600	1.01
106	0.2600	.98
330	0.2450 R	.88
131	0.2495	.71
324	0.2500	.71
351	0.2466	.62
232	0.2450	.59
057	0.2417	.50
296	0.2395	.46
--	Method 241.XX --	
095	0.2405	.46
136	0.2390	.42
394	0.2370	.39
023	0.2310	.32
035	0.2335	.28
177	0.2315	.22
397	0.2301	.20
389	0.2250	.14
Avg	0.2233	
247	0.2230	-.03
028	0.2190	-.12
289	0.2170	-.17
043	0.2100	-.35
360	0.2095	-.37
009	0.2100	-.42
376	0.2000	-.62
193	0.2000	-.62
292	0.2000	-.62
369	0.2000	-.68
102	0.1944 R	-.83
402	0.1865	-.99
381	0.1835	-1.08
396	0.1780	-1.21
300	0.1700	-1.42
395	0.1500	-1.95
320	0.1460	-2.06
040	0.1335	-2.39
--	Method 251.00 --	
037	22.140 S	274.64
397	10.434	.71
Avg	10.434	
--	Method 251.30 --	
324	17.750 s	7.37
009	12.975	1.26
232	12.100	.34
102	11.897	.22
247	11.900	.03
Avg	11.874	
096	10.500	-1.66
--	Method 251.99 --	
376	17.550	1.04
409	16.000	.25
Avg	15.385	
040	12.605	-1.17
--	Method 251.XX --	
037	22.140 s	4.71
324	17.750 R	2.33
376	17.550	2.03
409	16.000	1.30
009	12.975	.06
Avg	12.884	
232	12.100	-.34
040	12.605	-.40
247	11.900	-.41
102	11.897	-.42
096	10.500	-1.01
397	10.434	-1.02
--	Method 261.00 --	
055	0.2300 s	7.48
262	0.1800 R	2.35
177	0.1705	1.09
037	0.1700	1.03
137	0.1700	1.03
351	0.1679	.82
369	0.1650	.73
395	0.1650	.73
397	0.1646	.61
296	0.1655	.55
136	0.1625	.28
Avg	0.1604	
234	0.1600	-.04
106	0.1600	-.04
043	0.1550	-.78
193	0.1550	-.78
381	0.1585	-.82
028	0.1530	-.84
289	0.1435	-1.86
392	0.1400	-2.16
--	Method 261.11 --	
029	0.1560	.66
Avg	0.1535	
095	0.1510	-1.03
040	0.1210 S	-8.60
--	Method 261.30 --	
023	0.2375 s	5.17
330	0.1800	1.55
324	0.1750	1.28
361	0.1700	.93
009	0.1661	.77
376	0.1650	.69
035	0.1660	.68
131	0.1629	.63
102	0.1649	.61
251	0.1600	.30
057	0.1573	.15
247	0.1575	.15
389	0.1555	.04
Avg	0.1571	
393	0.1520	-.21
292	0.1500	-.33
396	0.1445	-.68
360	0.1435	-.77
300	0.1300	-1.58
320	0.1276	-1.74
402	0.1220 S	-2.10

* 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. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index
--	Method 261.99 --	
409	0.1700	.80
Avg	0.1608	
394	0.1515	-.93
--	Method 261.XX --	
023	0.2375 s	6.71
055	0.2300 s	6.12
262	0.1800 R	2.01
330	0.1800	1.82
324	0.1750	1.46
177	0.1705	1.02
037	0.1700	.97
137	0.1700	.97
361	0.1700	.97
409	0.1700	.97
009	0.1661	.81
351	0.1679	.80
376	0.1650	.69
395	0.1650	.69
369	0.1650	.69
131	0.1629	.66
035	0.1660	.64
397	0.1646	.61
296	0.1655	.59
102	0.1649	.56
136	0.1625	.36
251	0.1600	.13
106	0.1600	.13
234	0.1600	.13
Avg	0.1585	
247	0.1575	-.10
057	0.1573	-.16
029	0.1560	-.21
389	0.1555	-.26
043	0.1550	-.52
193	0.1550	-.52
028	0.1530	-.53
393	0.1520	-.56

Lab	Average*	Index
--	Method 261.XX --	
381	0.1585	-.64
095	0.1510	-.69
292	0.1500	-.72
394	0.1515	-.76
396	0.1445	-1.20
360	0.1435	-1.31
289	0.1435	-1.33
392	0.1400	-1.57
300	0.1300	-2.42
320	0.1276	-2.63
402	0.1220 s	-3.11
040	0.1210 s	-3.19
--	Method 271.00 --	
395	0.0600	.87
Avg	0.0575	
029	0.0550	-.87
--	Method 271.30 --	
393	0.0695	.86
Avg	0.0573	
396	0.0450	-.87
--	Method 271.XX --	
393	0.0695	1.28
395	0.0600	.28
Avg	0.0574	
029	0.0550	-.25
396	0.0450	-1.31
--	Method 281.00 --	
232	0.0710	-.71
--	Method 281.30 --	
096	0.0600	.71
--	Method 281.99 --	
376	0.0950	.89

Lab	Average*	Index
--	Method 281.99 --	
Avg	0.0797	
296	0.0643	-.85
--	Method 281.XX --	
376	0.0950	1.47
Avg	0.0726	
232	0.0710	-.12
296	0.0643	-.53
096	0.0600	-1.03
--	Method 289.00 --	
397	3.5555	.71
--	Method 289.30 --	
009	9.0050	1.87
Avg	4.9600	
096	4.6000	-.17
324	3.9500	-.47
232	3.7450	-.56
247	3.5000	-.67
--	Method 289.99 --	
409	5.3500	.71
--	Method 289.XX --	
009	9.0050	2.22
409	5.3500	.29
Avg	4.8151	
096	4.6000	-.11
324	3.9500	-.46
232	3.7450	-.57
397	3.5555	-.67
247	3.5000	-.70
--	Method 291.00 --	
397	20.301	.71

Lab	Average*	Index
--	Method 291.30 --	
376	31.560	1.71
393	25.700	.65
009	22.215	.03
Avg	22.079	
247	19.700	-.43
232	17.150	-.89
324	16.150	-1.08
--	Method 291.99 --	
409	28.500	.84
Avg	22.900	
035	17.300	-.89
--	Method 291.XX --	
376	31.560	1.68
409	28.500	1.11
393	25.700	.57
Avg	22.659	
009	22.215	-.08
397	20.301	-.44
247	19.700	-.56
232	17.150	-1.04
035	17.300 R	-1.08
324	16.150	-1.24
--	Method 301.30 --	
247	3.2000	-.71
--	Method 301.99 --	
040	0.3600	.71
--	Method 301.XX --	
247	3.2000	.87
Avg	1.7800	
040	0.3600	-.87
--	Method 311.00 --	
193	0.4000	.00

Lab	Average*	Index
--	Method 311.99 --	
251	0.5500	1.65
009	0.4516	.09
Avg	0.4464	
247	0.4400	-.19
035	0.4220	-.41
320	0.3686	-1.25
--	Method 311.XX --	
251	0.5500	1.87
009	0.4516	.22
247	0.4400	.17
Avg	0.4387	
035	0.4220	-.31
193	0.4000	-.65
320	0.3686	-1.18
--	Method 321.00 --	
137	0.1700	2.48
392	0.1650	2.00
055	0.1600	1.35
106	0.1500 R	1.15
177	0.1525	.59
037	0.1490	.26
200	0.1500 X	.23
395	0.1500	.23
136	0.1490	.17
289	0.1490	.17
028	0.1485	.09
Avg	0.1479	
029	0.1475	-.07
351	0.1472	-.11
381	0.1450	-.47
296	0.1430	-.56
043	0.1450	-.65
369	0.1450	-.65
193	0.1400	-.89
262	0.1400	-.89
095	0.1380	-1.11

* 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. - 200108 Grade 6-6-18

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
--	Method 321.00 --		--	Method 321.XX --		--	Method 321.XX --							
397	0.1375	-1.17	361	0.1600	1.14	376	0.1350	-1.29						
234	0.1350	-1.55	389	0.1600	1.14	234	0.1350	-1.29						
			330	0.1600	1.14	393	0.1265	-2.00						
--	Method 321.30 --		409	0.1600	1.14	300	0.1250	-2.19						
360	0.1635	1.29	247	0.1590	1.05	320	0.1209	-2.55						
330	0.1600	1.01	102	0.1580	.99									
361	0.1600	1.01	106	0.1500 R	.96	--	Method 325.30 --							
409	0.1600	1.01	402	0.1495 R	.72	396	0.0265	-.71						
247	0.1590	.93	035	0.1555	.72									
102	0.1580	.88	023	0.1535	.53									
035	0.1555	.65	177	0.1525	.49									
402	0.1495 R	.63	057	0.1503	.25									
023	0.1535	.48	009	0.1500	.23									
057	0.1503	.24	037	0.1490	.22									
009	0.1500	.22	324	0.1500	.20									
324	0.1500	.20	200	0.1500 X	.20									
251	0.1500	.20	395	0.1500	.20									
292	0.1500	.20	251	0.1500	.20									
Avg	0.1475		292	0.1500	.20									
394	0.1465	-.15	136	0.1490	.14									
131	0.1435	-.35	289	0.1490	.14									
040	0.1420	-.55	028	0.1485	.08									
396	0.1390	-.69	Avg	0.1479										
376	0.1350	-1.09	029	0.1475	-.06									
393	0.1265	-1.70	351	0.1472	-.09									
300	0.1250	-1.87	394	0.1465	-.19									
320	0.1209	-2.18	381	0.1450	-.39									
			131	0.1435	-.43									
--	Method 321.99 --		296	0.1430	-.46									
389	0.1600	.87	043	0.1450	-.54									
Avg	0.1507		369	0.1450	-.54									
409	0.1414	-.87	409	0.1414	-.61									
			040	0.1420	-.66									
--	Method 321.XX --		193	0.1400	-.74									
137	0.1700	2.07	262	0.1400	-.74									
392	0.1650	1.67	396	0.1390	-.84									
360	0.1635	1.47	095	0.1380	-.92									
055	0.1600	1.14	397	0.1375	-.97									

* 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. - 200108 Grade 6-6-18

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	13	-0.0486	0.98	0.25	050.51	9	0.0000	1.01	0.20
001.99	11	-0.9215	4.81	0.56	050.60	7	-2.3931	6.39	0.37
001.XX	24	-0.3546	2.58	0.36	050.61	8	-0.5184	1.75	0.15
002.20	4	0.0000	1.07	0.11	050.99	20	1.6739	7.19	0.19
002.99	13	0.0544	0.99	0.20	050.XX	75	0.2255	3.85	0.22
002.XX	17	0.0284	0.98	0.16	060.00	6	0.5209	1.58	0.77
009.10	9	-0.7043	2.32	0.18	060.XX	6	0.5209	1.58	0.77
009.XX	9	-0.7043	2.32	0.18	101.00	16	-0.0151	0.96	0.28
010.11	7	-6.1824	21.99	0.44	101.30	20	-0.4132	1.93	0.19
010.12	6	0.0000	1.03	0.20	101.XX	38	-0.2428	1.53	0.25
010.60	52	-0.2697	2.28	0.60	121.00	23	0.0000	1.00	0.18
010.99	7	0.8354	2.41	0.12	121.30	19	-0.3830	2.60	0.13
010.XX	71	-0.4134	3.70	0.52	121.70	2	0.0000	1.22	0.05
020.10	7	0.0000	0.99	0.30	121.XX	44	-0.1512	1.77	0.16
020.20	19	0.1051	2.61	1.34	131.00	6	0.0000	1.05	0.02
020.30	2	-14.1887	20.07	34.87	131.30	3	0.0000	1.12	0.02
020.40	7	0.3119	1.23	0.53	131.XX	10	-0.2370	1.23	0.10
020.50	4	0.0000	1.02	0.32	144.01	12	-0.4710	1.90	0.15
020.99	3	0.0000	1.07	0.26	144.03	2	-82.5194	116.70	0.54
020.XX	42	0.1089	2.00	1.08	144.99	22	-0.3122	1.90	0.17
030.10	2	0.0000	1.11	0.37	144.XX	38	-0.4951	2.12	0.16
030.20	4	0.0000	1.04	0.25	151.30	5	0.0000	1.06	0.06
030.40	2	0.0000	0.17	0.86	151.99	2	0.0000	0.18	0.86
030.XX	8	0.0000	0.99	0.28	151.XX	7	-0.0188	0.96	0.15
040.20	3	0.0000	1.10	0.16	165.00	12	0.5871	1.69	0.59
040.40	4	0.0000	0.89	0.53	165.99	11	0.0000	0.97	0.31
040.XX	9	0.0000	0.97	0.34	165.XX	23	0.3096	1.41	0.49
041.10	16	-0.4934	2.20	0.15	181.00	4	0.0512	0.92	0.10
041.20	5	0.0000	1.05	0.15	181.30	6	1.1709	3.00	0.37
041.40	5	0.7230	1.86	0.18	181.XX	11	0.3516	1.51	0.19
041.50	9	0.4227	1.59	0.25	190.00	17	0.2085	3.06	0.25
041.60	11	0.0000	0.99	0.26	190.99	5	0.8303	2.04	0.71
041.XX	42	-0.0350	1.65	0.23	190.XX	22	0.1227	4.47	0.42
048.20	3	-2.1230	3.78	0.26	191.30	4	0.0000	1.04	0.25
048.99	4	39.6922	79.39	0.82	191.XX	4	0.0000	1.04	0.25
048.XX	8	14.6063	43.95	0.50	202.00	2	0.0000	1.22	0.06
050.00	20	-0.5906	2.06	0.49	202.30	8	-0.4086	1.46	0.21
050.30	10	-0.3257	1.29	0.16	202.XX	11	-0.0093	0.97	0.10
050.50	3	0.0000	1.11	0.14	221.00	6	15.4372	37.82	0.36

MAGRUDER - Fertilizer Check Sample No. - 200108 Grade 6-6-18

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
221.30	12	0.5399	4.65	0.65					
221.99	2	0.0000	1.13	0.34					
221.XX	20	4.6570	20.16	0.46					
241.00	19	-0.0357	1.00	0.09					
241.30	22	0.2083	1.25	0.24					
241.XX	41	0.0744	1.10	0.17					
251.00	2	119.9673	169.66	94.49					
251.30	6	1.1119	2.87	1.30					
251.99	3	0.0000	1.01	0.40					
251.XX	11	0.5341	1.54	0.92					
261.00	19	0.4999	1.95	0.49					
261.11	3	-2.8615	5.00	0.55					
261.30	20	0.2582	1.51	0.19					
261.99	2	0.0000	1.13	0.34					
261.XX	44	0.1887	1.80	0.32					
271.00	2	0.0000	1.22	0.00					
271.30	2	0.0000	1.22	0.06					
271.XX	4	0.0000	1.08	0.06					
281.99	2	0.0000	1.19	0.20					
281.XX	4	0.0000	1.00	0.36					
289.30	5	0.0000	1.06	0.06					
289.XX	7	0.0000	1.04	0.07					
291.30	6	0.0000	1.05	0.07					
291.99	2	0.0000	1.19	0.22					
291.XX	9	-0.1123	1.02	0.14					
301.XX	2	0.0000	1.22	0.06					
311.99	5	0.0000	1.05	0.10					
311.XX	6	0.0000	1.04	0.10					
321.00	22	0.0106	0.95	0.36					
321.30	22	0.0072	0.97	0.21					
321.99	2	0.0000	1.22	0.01					
321.XX	45	0.0020	0.95	0.30					