

**Missouri
Agricultural Liming
Materials Report**

July 1 to December 31, 2007

Agricultural Experiment Station

University of Missouri-Columbia

This bulletin is a detailed report of official samples obtained under the Missouri Agricultural Liming Materials Law collected from July 1 through December 31, 2007. There were 810 official samples collected in this period. All samples are analyzed to determine fineness of grind, calcium carbonate equivalent (CCE), and magnesium content (Mg). Effective neutralizing material (ENM) and effective magnesium (EMg) are calculated from this information, as prescribed by Rule, for each dry sample which meets the minimum specifications of at least 90% passing a U.S. No. 8 sieve and minimum 65% CCE. Products not meeting minimum specifications cannot be sold as agricultural liming materials. Twenty-one deficient samples are reported, fifteen for excessive coarseness and six for low CCE. There were five "stop sale" order's issued against producer stockpiles: all for excessive coarseness. Corrective actions taken by the producers have resulted in the release of four of the issued "stop sale" orders.

Table 1 lists registered producers and samples obtained at production sites. Table 2 lists samples obtained from retail distributor stockpiles, by producer.

MISSOURI AGRICULTURAL LIMING MATERIALS TONNAGE
REPORTED SINCE AUGUST 13, 1976

YEAR	SPRING	FALL	TOTAL
1976	-----	2,514,500	-----
1977	1,590,700	1,166,600	2,757,300
1978	1,116,100	2,546,250	3,662,350
1979	975,300	3,068,900	4,044,200
1980	1,431,000	2,266,900	3,697,900
1981	1,336,750	1,228,350	2,565,100
1982	825,100	1,029,000	1,854,100
1983	872,700	1,154,700	2,027,400
1984	595,725	899,459	1,495,185
1985	611,050	783,575	1,394,625
1986	967,375	646,115	1,613,490
1987	1,104,358	1,558,171	2,662,529
1988	1,036,917	1,605,444	2,642,361
1989	939,831	1,586,398	2,526,229
1990	504,100	1,204,551	1,708,651
1991	646,864	835,603	1,482,467
1992	859,648	771,536	1,631,184
1993	397,607	686,345	1,083,952
1994	681,464	967,450	1,648,914
1995	720,140	1,207,663	1,927,803
1996	704,151	886,627	1,590,778
1997	779,876	1,063,760	1,843,636
1998	626,186	1,048,308	1,674,494
1999	606,847	1,557,259	2,164,106
2000	886,861	996,123	1,882,984
2001	512,964	1,311,614	1,824,578
2002	696,473	1,079,130	1,775,603
2003	596,438	829,574	1,426,012
2004	629,642	748,503	1,378,145
2005	667,212	659,215	1,326,427
2006	839,305	774,665	1,613,969
2007	481,973	877,995*	1,359,968*

* PRELIMINARY ESTIMATE

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
76 QUARRY, MANSFIELD, MO										
Stockpile #1										
Lab #1077	10-02-07	0.3	39.1	12.2	48.4	83.2	9.9	65.5	436	130
ADRIAN QUARRY LLC, ADRIAN, MO										
Stockpile #4										
Lab #0757	08-06-07	0.6	49.7	12.9	36.8	90.5	0.4	57.0	412	5
Lab #0977	09-12-07	0.4	50.6	10.9	38.1	89.0	0.4	57.3	408	5
Lab #1212	10-23-07	0.9	51.7	10.6	36.8	89.7	0.4	56.1	402	4
Lab #1423	11-26-07	1.0	47.9	12.5	38.6	87.6	0.8	58.1	407	9
Stockpile #5										
Lab #0758	08-06-07	1.7	47.1	11.5	39.7	90.0	0.4	58.4	420	5
Lab #0978	09-12-07	1.9	46.7	10.8	40.6	89.6	0.5	58.8	421	6
Lab #1213	10-23-07	1.4	48.9	10.8	38.9	90.1	0.5	57.6	415	6
AIRGAS - MID AMERICA, MOUNTAIN GROVE, MO										
Stockpile #1										
Lab #0833	08-23-07	1.4	2.0	1.1	95.5	114.2	0.2	96.7	883	4
Lab #0954	09-10-07	0.4	1.2	0.6	97.8	111.8	0.2	98.5	881	4
Lab #1398	11-29-07	0.3	1.3	1.4	97.0	121.6	0.1	98.2	955	2
Stockpile #2										
Lab #0834	08-23-07	2.3	2.8	1.0	93.9	115.0	0.1	95.2	876	2
Lab #0955	09-10-07	0.0	0.3	0.3	99.4	114.4	0.2	99.7	912	4
Lab #1399	11-29-07	0.1	4.6	2.8	92.5	121.8	0.1	95.3	929	2
Stockpile #3										
Lab #0835	08-23-07	0.0	1.1	0.6	98.3	115.9	0.1	98.9	917	2
Lab #0956	09-10-07	0.1	0.3	0.2	99.4	120.5	0.1	99.6	960	2
Lab #1400	11-29-07	0.0	0.5	0.4	99.1	123.0	0.1	99.5	979	2
ALBY QUARRY, CARLINVILLE, IL										
ALLEN QUARRIES INC, LOCKWOOD, MO										
Stockpile #1										
Lab #0958	09-13-07	3.9	49.4	12.5	34.2	91.7	0.8	54.1	397	9
Lab #1204	10-25-07	1.3	53.8	13.4	31.5	88.2	0.7	53.0	374	7
ANNA QUARRY, ANNA, IL										
Stockpile #1										
Lab #0711	08-01-07	5.1	69.1	11.6	14.2	89.5	2.2	38.4	275	17
Lab #1061	09-25-07	0.1	48.8	14.9	36.2	92.5	3.8	57.3	424	44
Lab #1322	10-31-07	0.2	50.5	14.7	34.6	91.0	3.4	56.0	408	38
APAC-MISSOURI, INC - BAGNELL 13, ELDON, MO										
Stockpile #1										
Lab #0769	08-09-07	0.6	37.0	20.6	41.8	85.5	10.1	63.4	434	128
Lab #1210	10-22-07	7.8	43.8	14.5	33.9	95.1	11.4	53.6	407	122
Stockpile #2										
Lab #1211	10-22-07	2.5	41.7	15.8	40.0	79.3	9.4	59.9	380	113
APAC-MISSOURI, INC. - BOONVILLE, COLUMBIA, MO										
Stockpile #1										
Lab #0687	08-01-07	4.2	47.0	12.4	36.4	91.2	0.3	55.6	406	3
Lab #0838	08-20-07	6.9	47.0	12.5	33.6	89.6	0.4	52.9	379	4
Lab #1155	10-15-07	1.7	52.5	12.7	33.1	92.2	0.3	53.8	397	3
Lab #1348	11-12-07	4.3	47.4	12.8	35.5	92.6	0.1	55.0	408	1
Lab #1432	12-04-07	2.8	52.3	12.5	32.4	89.7	0.2	53.0	380	2
APAC-MISSOURI GALLATIN, GALLATIN, MO										
Stockpile #1										
Lab #1044	09-25-07	1.1	45.8	10.2	42.9	63.5*	1.3	60.5	0	0
Lab #1047	09-26-07	0.8	46.7	12.4	40.1	72.3	0.9	59.2	342	11
Lab #1171	10-16-07	1.4	44.9	10.1	43.6	64.7*	1.3	60.9	0	0
Lab #1259	11-01-07	5.6	44.9	8.5	41.0	69.1	0.9	57.3	317	10
Stockpile #2										
Lab #0880	08-30-07	7.0	53.0	8.6	31.4	74.9	0.9	49.8	298	9
Lab #0900	09-05-07	6.0	54.3	8.2	31.5	76.8	0.8	50.0	307	8
Lab #1172	10-16-07	8.0	56.7	8.5	26.8	79.7	0.8	46.1	294	7
Stockpile #5										
Lab #0863	08-23-07	1.7	46.4	11.1	40.8	64.1*	1.4	59.1	0	0
Lab #0879	08-30-07	1.1	45.1	13.1	40.7	65.0	1.4	59.8	311	17
Lab #0899	09-05-07	0.8	42.3	11.0	45.9	63.9*	1.4	63.1	0	0
Lab #1258	11-01-07	1.2	44.8	11.1	42.9	70.2	1.0	60.8	341	12
APAC-MISSOURI, INC. - LANAGAN, COLUMBIA, MO										

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JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
APAC-MISSOURI, INC. - LINN CREEK, LINN CREEK, MO										
Stockpile #2										
Lab #0768	08-09-07	2.0	47.4	15.6	35.0	82.3	9.5	56.2	370	107
Lab #1209	10-22-07	1.7	42.4	17.0	38.9	94.4	11.4	59.7	451	136
APAC-MISSOURI, INC. - BUSIEK, COLUMBIA, MO										
APAC-MISSOURI, INC. - MARSHALL, MARSHALL, MO										
Stockpile #1										
Lab #0675	07-06-07	6.2	52.3	8.6	32.9	88.4	3.5	51.1	362	36
Lab #0679	07-09-07	6.7	53.0	8.5	31.8	90.5	3.4	50.2	363	34
Lab #0681	07-13-07	7.5	51.6	8.8	32.1	87.3	3.4	50.3	351	34
Lab #0882	08-29-07	5.6	52.5	8.3	33.6	89.5	4.1	51.7	370	42
Lab #1024	09-24-07	8.0	49.3	11.2	31.5	89.8	1.3	50.5	363	13
Lab #1180	10-19-07	6.7	48.6	10.9	33.8	85.2	1.0	52.5	358	10
Lab #1381	11-28-07	9.0	48.2	10.0	32.8	84.9	3.4	50.9	345	35
Stockpile #2										
Lab #1273	11-05-07	0.0	30.4	19.0	50.6	86.8	1.5	69.6	483	21
Lab #1380	11-28-07	0.0	32.0	16.4	51.6	86.3	3.9	69.4	479	54
Lab #1431	12-03-07	0.1	23.5	19.9	56.5	84.2	2.3	74.3	501	34
Stockpile #3										
Lab #1274	11-05-07	3.3	37.1	13.5	46.1	77.6	1.4	63.5	394	18
Stockpile #4										
Lab #0676	07-06-07	7.1	51.8	8.1	33.0	88.3	3.3	50.8	359	34
Lab #0680	07-09-07	6.8	50.8	8.8	33.6	86.8	3.8	51.6	358	39
Lab #0682	07-13-07	8.3	48.0	7.9	35.8	87.2	4.0	52.5	367	42
Lab #0883	08-29-07	4.9	59.4	9.9	25.8	93.8	0.3	46.6	350	3
Lab #1173	10-19-07	5.3	50.1	14.2	30.4	92.5	0.2	51.4	381	2
Lab #1382	11-28-07	7.9	47.1	11.5	33.5	85.6	3.5	52.2	357	37
APAC-MISSOURI, INC. - MIAMI, COLUMBIA, MO										
APAC-MISSOURI INC. - ROARK CREEK, COLUMBIA, MO										
ARKANSAS LIME COMPANY, INC., BATESVILLE, AR										
ASC MINERALS PROCESSING, ALLERTON, IL										
ASH GROVES AGGREGATES-DEVER, BUTLER, MO										
Stockpile #1										
Lab #0761	08-08-07	5.5	48.1	11.6	34.8	90.2	2.3	53.8	388	25
Lab #0985	09-19-07	5.2	44.6	12.2	38.0	93.4	0.2	56.5	422	2
Lab #1217	10-24-07	4.3	44.9	12.1	38.7	93.6	0.3	57.2	428	3
Lab #1417	11-27-07	3.7	44.8	12.3	39.2	88.5	0.9	57.8	409	10
ASH GROVE AGGREGATES-FAIR GROVE, BUTLER, MO										
Stockpile #1										
Lab #1232	10-29-07	7.4	50.1	6.7	35.8	88.4	9.5	52.3	370	99
Lab #1481	12-13-07	7.0	49.8	6.6	36.6	88.4	10.4	53.0	375	110
ASH GROVE AGGREGATES INC-BUTLER, BUTLER, MO										
Stockpile #2										
Lab #0795	08-15-07	2.5	50.6	12.1	34.8	83.0	1.0	54.7	363	11
Lab #0983	09-17-07	1.9	52.1	10.2	35.8	82.0	1.2	54.9	360	13
Lab #1161	10-16-07	2.2	53.9	11.1	32.8	82.6	1.0	52.9	350	11
Lab #1427	11-26-07	9.1	51.1	9.1	30.7	83.5	1.0	48.9	327	10
Lab #1479	12-13-07	4.2	54.2	10.2	31.4	82.1	1.0	51.1	335	10
ASH GROVE AGGREGATES INC-BUTLER S&K, BUTLER, MO										
Stockpile #1										
Lab #1428	11-26-07	1.9	56.6	12.7	28.8	79.8	0.8	50.6	323	8
Lab #1440	12-05-07	2.8	62.0	11.0	24.2	82.4	0.6	46.3	305	6
Lab #1478	12-13-07	2.0	55.7	11.9	30.4	79.9	0.6	51.5	329	6
ASH GROVE AGGREGATES INC-LACYGNE, BUTLER, MO										
Stockpile #4										
Lab #0755	08-06-07	0.7	50.0	15.6	33.7	82.2	1.2	55.6	365	13
Lab #1052	09-26-07	2.5	48.3	10.9	38.3	85.6	0.8	56.9	390	9
Lab #1215	10-23-07	1.7	46.1	10.0	42.2	74.3	1.4	59.7	355	17
Lab #1425	11-26-07	2.0	47.6	10.6	39.8	83.5	1.3	58.1	388	15
ASH GROVE AGGREGATES INC-MARSHFIELD, BUTLER, MO										
ASH GROVE AGGREGATES INC-MONTEVALLO, BUTLER, MO										
Stockpile #1										
Lab #0686	08-02-07	4.4	47.4	11.1	37.1	81.6	0.6	55.6	363	7
Lab #0973	09-10-07	4.4	45.9	9.6	40.1	77.1	0.6	57.3	354	7
Lab #1367	11-19-07	5.0	50.4	11.8	32.8	89.8	0.3	52.5	377	3
Lab #1430	11-27-07	4.3	49.8	11.6	34.3	88.0	0.5	53.7	378	5

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JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
ASH GROVE AGGREGATES INC-OSCEOLA, BUTLER, MO										
Stockpile #1										
Lab #0770	08-10-07	3.4	47.8	11.3	37.5	84.6	3.0	56.2	381	34
Lab #1162	10-17-07	3.8	46.6	11.2	38.4	83.8	2.3	56.8	381	26
Lab #1389	11-30-07	3.8	49.3	11.5	35.4	89.0	1.3	54.6	389	14
Stockpile #2										
Lab #1390	11-30-07	4.1	46.2	12.0	37.7	78.0	0.5	56.5	352	6
Lab #1439	12-03-07	3.9	47.3	11.6	37.2	74.6	2.0	56.0	334	22
Lab #1475	12-12-07	3.8	43.4	8.8	44.0	72.4	1.9	60.1	348	23
ASH GROVE AGGREGATES, INC-SEAGRAVES, BUTLER, MO										
Stockpile #1										
Lab #0875	08-29-07	1.7	50.1	10.6	37.6	80.9	1.0	56.5	366	11
Lab #1082	10-04-07	1.5	48.4	9.0	41.1	83.8	1.0	58.6	393	12
ASH GROVE AGGREGATES INC.-STOCKTON, BUTLER, MO										
Stockpile #1										
Lab #1366	11-19-07	2.0	50.4	12.9	34.7	90.9	0.1	55.0	400	1
Lab #1371	11-21-07	3.8	52.3	12.4	31.5	84.1	0.1	52.0	350	1
Lab #1429	11-27-07	1.4	48.8	13.9	35.9	95.8	0.1	56.4	433	1
Lab #1474	12-12-07	2.8	45.1	12.2	39.9	91.5	0.1	58.5	428	1
Stockpile #2										
Lab #0685	08-02-07	3.9	52.2	12.9	31.0	94.3	0.2	51.8	391	2
ASH GROVE AGGREGATES INC-WHEATLAND, BUTLER, MO										
Stockpile #1										
Lab #0796	08-16-07	0.3	49.1	12.6	38.0	96.5	0.2	57.8	446	2
Lab #0906	09-06-07	0.8	50.5	13.9	34.8	93.8	0.2	55.8	418	2
Lab #1081	10-03-07	0.2	47.5	12.7	39.6	97.2	0.2	59.1	460	2
Lab #1340	11-13-07	0.3	51.0	12.3	36.4	93.7	0.2	56.5	424	2
Lab #1442	12-07-07	0.2	51.7	12.5	35.6	97.5	0.2	56.0	437	2
ASH GROVE AGGREGATES INC-BOLIVAR, BUTLER, MO										
Stockpile #1										
Lab #0851	08-27-07	0.9	50.0	12.6	36.5	93.8	0.7	56.6	424	8
Lab #1054	09-27-07	1.2	47.6	11.6	39.6	92.3	0.3	58.5	432	4
Lab #1244	10-31-07	1.8	51.0	12.8	34.4	93.1	0.4	54.8	408	4
Lab #1421	11-29-07	1.8	51.9	12.1	34.2	95.7	0.4	54.4	417	4
ASH GROVE AGGREGATES - KIFER, BUTLER, MO										
Stockpile #1										
Lab #0852	08-27-07	2.8	56.7	10.6	29.9	93.8	0.4	50.4	378	4
Lab #1057	09-27-07	2.5	53.3	11.0	33.2	93.1	0.3	53.1	396	3
Lab #1247	10-31-07	3.9	55.8	10.3	30.0	92.6	0.7	50.1	371	7
Lab #1387	11-29-07	3.0	55.9	10.5	30.6	93.2	0.4	50.9	379	4
ASH GROVE AGGREGATES INC-BUFFALO, BUTLER, MO										
Stockpile #2										
Lab #0759	08-07-07	0.2	43.9	13.2	42.7	91.7	10.9	61.6	452	134
Lab #0979	09-13-07	0.3	42.2	11.7	45.8	91.8	11.1	63.4	465	141
Lab #1218	10-25-07	0.6	42.5	11.9	45.0	92.3	11.1	62.8	463	139
BAILEY QUARRIES INC-CHESAPEAKE Q., MT VERNON, MO										
Stockpile #1										
Lab #0789	08-15-07	0.3	36.5	13.2	50.0	92.9	10.7	67.0	498	143
Lab #1236	11-01-07	0.0	35.4	11.6	53.0	92.6	10.6	68.8	510	146
Stockpile #4										
Lab #0788	08-15-07	1.4	40.8	10.7	47.1	92.3	10.5	63.7	471	134
Lab #1237	11-01-07	1.8	40.8	10.3	47.1	93.0	10.8	63.5	472	137
BAILEY QUARRIES INC-JANE, JANE, MO										
Stockpile #2										
Lab #0783	08-13-07	0.6	40.5	10.7	48.2	90.1	10.8	64.7	467	140
Lab #1032	09-25-07	1.6	47.1	8.5	42.8	95.9	11.4	59.7	458	136
Lab #1459	12-05-07	0.7	40.7	10.3	48.3	95.5	10.9	64.7	494	141
BAILEY QUARRIES, INC.-MADRY QUARRY, VERONA, MO										
Stockpile #2										
Lab #0785	08-14-07	2.3	57.0	10.9	29.8	86.7	7.5	50.6	351	76
Lab #1016	09-21-07	2.5	55.3	9.9	32.3	86.0	6.8	52.1	358	71
Lab #1238	11-02-07	2.9	52.6	9.1	35.4	84.3	5.0	54.0	364	54
BAILEY QUARRIES - SARCOXIE, REPUBLIC, MO										
Stockpile #1										
Lab #0837	08-24-07	2.4	53.9	12.0	31.7	88.9	0.7	52.4	372	7
Lab #1033	09-28-07	3.3	51.8	11.1	33.8	81.7	0.2	53.4	349	2

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JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
BAILEY QUARRIES INC-STOCKTON, STOCKTON, MO										
Stockpile #1										
Lab #0684	08-02-07	2.0	48.8	13.5	35.7	93.4	0.1	56.0	418	1
Lab #0974	09-10-07	1.2	45.9	13.9	39.0	93.8	0.1	58.8	441	1
Lab #1108	10-10-07	2.1	44.7	17.1	36.1	93.9	0.1	57.5	432	1
Lab #1365	11-19-07	1.8	52.8	12.0	33.4	94.8	0.1	53.8	408	1
BAILEY QUARRIES, INC.-WASHBURN, REPUBLIC, MO										
Stockpile #1										
Lab #0782	08-13-07	0.1	42.4	16.5	41.0	80.3	0.1	61.5	395	1
Lab #0908	09-07-07	0.2	42.6	16.7	40.5	80.3	0.1	61.2	393	1
BARBER & SONS AGGREGATES, LEE'S SUMMIT, MO										
Stockpile #2										
Lab #0688	08-02-07	11.2*	42.8	8.8	37.2	89.3	0.6	53.2	0	0
Lab #0792	08-17-07	9.2	44.7	8.7	37.4	84.7	0.5	53.8	365	5
Lab #0841	08-22-07	6.7	46.8	11.6	34.9	83.2	0.8	53.6	356	9
Lab #0888	08-30-07	7.9	39.3	8.9	43.9	84.1	0.9	59.1	397	11
Lab #1071	10-01-07	7.6	46.4	9.2	36.8	84.9	0.5	53.9	366	5
Lab #1203	10-26-07	9.8	47.4	8.4	34.4	84.6	0.4	51.3	347	4
Lab #1372	11-21-07	19.8*	37.2	6.8	36.2	86.8	0.8	49.6	0	0
BARRETT MATERIALS INC, NEW HAVEN, MO										
Stockpile #1										
Lab #0740	08-06-07	0.0	44.4	8.4	47.2	85.7	10.1	63.3	434	128
Lab #0914	09-06-07	0.1	36.6	9.7	53.6	84.6	10.4	68.6	464	143
Lab #1185	10-16-07	0.0	35.9	10.6	53.5	87.2	10.3	68.8	480	142
Lab #1405	11-27-07	0.1	39.0	11.1	49.8	84.1	10.3	66.2	445	136
BELLE PLANT FOODS, BELLE, MO										
Stockpile #1										
Lab #0702	08-02-07	1.5	7.6	9.5	81.4	93.4	2.4	89.0	665	43
Lab #0911	09-04-07	2.2	11.3	12.6	73.9	92.5	2.0	84.3	624	34
Lab #1195	10-25-07	1.0	12.1	16.0	70.9	93.0	1.9	83.5	621	32
Lab #1453	12-06-07	0.7	12.1	13.7	73.5	93.9	1.6	84.7	637	27
BOONE QUARRIES INC - WEST, COLUMBIA, MO										
Stockpile #1										
Lab #0736	08-09-07	0.9	31.0	9.0	59.1	90.9	3.9	72.3	525	56
Lab #0926	09-14-07	0.8	30.2	11.5	57.5	89.2	1.6	72.0	513	23
Lab #1144	10-15-07	0.7	27.3	10.5	61.5	96.9	2.4	74.6	578	36
Lab #1304	11-09-07	2.0	37.7	7.1	53.2	87.3	5.4	66.9	467	72
Stockpile #2										
Lab #0737	08-09-07	0.3	36.7	14.3	48.7	96.7	1.6	66.5	514	21
Lab #0927	09-14-07	0.2	37.3	13.9	48.6	96.6	1.6	66.3	512	21
Lab #1145	10-15-07	0.4	36.3	14.7	48.6	96.6	1.5	66.5	514	20
Lab #1305	11-09-07	6.3	40.7	12.9	40.1	95.1	2.5	58.0	441	29
BOONE QUARRIES INC - NORTH, COLUMBIA, MO										
BOONE QUARRIES - EAST, COLUMBIA, MO										
Stockpile #1										
Lab #0924	09-14-07	3.4	20.0	15.3	61.3	93.6	0.3	75.5	565	5
Lab #1142	10-15-07	4.7	25.4	12.8	57.1	94.8	2.6	71.1	539	37
Lab #1302	11-09-07	1.3	12.0	14.7	72.0	95.5	1.6	83.8	640	27
Stockpile #2										
Lab #0735	08-09-07	0.9	9.1	10.2	79.8	88.2	6.2	88.2	622	109
Lab #0925	09-14-07	1.6	10.8	11.3	76.3	89.6	6.1	85.8	615	105
Lab #1143	10-15-07	0.5	7.4	11.0	81.1	91.1	4.4	89.6	653	79
Lab #1303	11-09-07	0.6	7.0	12.3	80.1	91.3	4.7	89.2	652	84
BURFORDVILLE MATERIALS INC, WHITEWATER, MO										
Stockpile #1										
Lab #0817	08-16-07	9.4	56.0	6.8	27.8	79.2	9.3	45.9	291	85
Lab #0869	08-29-07	5.2	58.6	8.5	27.7	81.3	9.8	47.5	309	93
Lab #1017	09-24-07	6.9	54.4	8.3	30.4	91.5	10.5	49.0	359	103
Lab #1127	10-12-07	7.0	54.8	8.0	30.2	91.5	10.8	48.7	356	105
Lab #1227	10-29-07	8.1	55.0	7.3	29.6	92.5	10.5	47.7	353	100
Lab #1467	12-11-07	6.7	57.8	8.2	27.3	91.2	10.6	46.7	341	99
Stockpile #2										
Lab #0712	08-02-07	11.2*	55.1	7.0	26.7	80.4	9.5	44.7	0	0
CAPITAL QUARRIES CO., INC.-ARCADIA, ARCADIA, MO										
Stockpile #1										
Lab #1034	09-26-07	2.3	50.6	12.7	34.4	97.9	11.6	54.7	428	127
Lab #1265	10-30-07	2.8	50.9	11.8	34.5	100.6	11.7	54.3	437	127

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
CAPITAL QUARRIES CO., INC.-ARCADIA, ARCADIA, MO (Continued)										
Stockpile #1										
Lab #1272	10-31-07	2.0	51.7	12.0	34.3	98.9	11.2	54.4	431	122
CAPITAL QUARRIES CO., INC- EUGENE, JEFFERSON CITY, MO										
CAPITAL QUARRIES INC-HIGH HILL, HIGH HILL, MO										
CAPITAL QUARRIES, INC-STADIUM WEST, JEFFERSON CITY, MO										
Stockpile #2										
Lab #0738	08-09-07	3.1	40.4	10.0	46.5	86.9	10.3	62.6	435	129
Lab #0951	09-10-07	1.3	40.9	10.3	47.5	90.4	11.1	63.9	462	142
Lab #1186	10-17-07	2.2	42.1	9.7	46.0	85.8	10.4	62.3	428	130
Lab #1406	11-28-07	1.6	40.7	10.0	47.7	89.1	10.9	63.9	455	139
CAPITAL QUARRIES INC-ROLLA Q #4, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0701	08-01-07	0.3	34.1	11.7	53.9	76.9	9.2	69.4	427	128
Lab #0703	08-02-07	0.9	34.2	11.7	53.2	77.2	9.1	68.8	425	125
Lab #0805	08-17-07	19.7*	37.0	8.0	35.3	75.0	8.8	49.4	0	0
Lab #0952	09-11-07	2.8	35.3	11.3	50.6	74.4	9.2	66.2	394	122
Lab #1087	10-04-07	0.6	38.8	10.7	49.9	76.5	9.0	66.0	404	119
Lab #1187	10-18-07	5.4	39.3	9.0	46.3	76.9	9.3	61.5	379	114
Lab #1316	11-06-07	1.5	33.2	10.4	54.9	74.1	8.8	69.4	412	122
CAPITAL QUARRIES INC-CALIFORNIA Q#5, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0791	08-16-07	2.7	52.1	10.5	34.7	85.8	3.5	54.0	371	38
Lab #0950	09-12-07	3.1	51.5	10.7	34.7	87.3	3.2	54.0	377	35
Lab #1102	10-09-07	4.0	51.1	9.1	35.8	88.7	2.7	54.0	383	29
Lab #1433	12-05-07	3.1	53.7	9.8	33.4	85.8	3.6	52.7	362	38
CAPITAL QUARRIES INC.-HERMANN #14, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0858	08-22-07	1.6	48.9	9.0	40.5	89.2	10.6	58.1	415	123
CAPITAL QUARRIES, INC - SALEM, JEFFERSON CITY, MO										
Stockpile #1										
Lab #1192	10-24-04	3.6	48.3	11.6	36.5	97.0	11.5	55.5	431	128
Lab #1086	10-04-07	3.1	41.3	13.6	42.0	96.2	11.2	60.5	465	135
Lab #1194	10-25-07	1.4	41.0	13.2	44.4	97.3	11.6	62.6	487	145
CAPITAL QUARRIES INC-SULLIVAN, BOURBON, MO										
Stockpile #1										
Lab #0799	08-14-07	9.7	48.1	11.1	31.1	95.7	10.9	49.8	381	109
Lab #0912	09-05-07	7.4	45.4	11.5	35.7	96.1	11.6	54.0	415	125
Lab #1189	10-22-07	7.0	45.2	11.5	36.3	96.6	11.6	54.5	421	126
Lab #1408	11-29-07	7.1	44.9	12.0	36.0	96.1	11.6	54.4	418	126
Stockpile #2										
Lab #0913	09-05-07	0.1	2.4	11.9	85.6	94.2	10.9	93.3	703	203
Lab #1190	10-22-07	3.9	7.6	23.2	65.3	95.0	11.4	81.1	617	185
Lab #1409	11-29-07	4.2	6.2	21.5	68.1	95.1	11.2	82.6	628	185
CARROLL COUNTY STONE, INC., REPUBLIC, MO										
Stockpile #1										
Lab #0746	08-09-07	1.1	41.5	10.8	46.6	87.0	10.4	63.5	442	132
Lab #1160	10-19-07	1.5	41.8	10.3	46.4	87.4	10.3	63.0	441	130
Lab #1463	12-07-07	1.2	41.2	10.8	46.8	87.3	10.1	63.6	444	128
CARTHAGE CRUSHED LIMESTONE, CARTHAGE, MO										
Stockpile #1										
Lab #0744	08-07-07	6.8	41.1	11.8	40.3	95.4	0.2	57.7	440	2
Lab #1117	10-09-07	0.0	0.6	2.5	96.9	96.9	0.2	98.6	764	4
Lab #1461	12-05-07	0.3	5.8	4.3	89.6	96.5	0.1	93.6	723	2
Lab #1480	12-11-07	0.2	2.3	3.0	94.5	96.9	0.2	96.9	751	4
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Stockpile #1										
Lab #0730	08-07-07	9.5	36.9	8.9	44.7	95.6	0.4	59.3	453	5
Lab #0932	09-10-07	4.5	38.3	10.6	46.6	90.2	0.6	62.5	451	8
Lab #1157	10-16-07	4.8	40.6	10.0	44.6	89.6	0.3	60.8	435	4
Lab #1324	11-12-07	3.3	39.1	12.7	44.9	89.5	0.3	62.3	446	4
Stockpile #2										
Lab #0729	08-07-07	0.8	35.9	12.9	50.4	90.7	1.3	67.1	487	17
Lab #0933	09-10-07	0.7	34.4	18.8	46.1	90.9	0.6	66.0	480	8
Lab #1158	10-16-07	0.5	35.4	14.9	49.2	89.5	1.0	67.0	480	13
Lab #1325	11-12-07	2.1	43.6	12.5	41.8	90.7	0.6	60.2	437	7

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JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
CENTRAL STONE COMPANY-ANTONIA, HANNIBAL, MO										
CENTRAL STONE COMPANY - BETHEL, SHELBYVILLE, MO										
Stockpile #1										
Lab #0722	08-06-07	5.5	39.8	9.2	45.5	92.4	1.2	61.0	451	15
Lab #0938	09-12-07	7.4	46.4	10.7	35.5	92.0	1.4	53.5	394	15
Lab #1129	10-10-07	4.9	44.2	11.3	39.6	91.9	1.0	57.4	422	11
Lab #1291	11-07-07	5.7	48.8	9.7	35.8	93.5	1.0	53.8	403	11
Stockpile #2										
Lab #0724	08-06-07	9.5	47.8	9.2	33.5	93.5	1.0	51.0	381	10
Lab #0939	09-12-07	10.7*	52.8	10.4	26.1	94.0	1.1	45.5	0	0
Lab #1130	10-10-07	0.7	46.0	12.4	40.9	92.5	0.8	59.8	443	10
Lab #1292	11-07-07	0.6	46.5	14.3	38.6	93.5	0.9	58.8	440	11
Stockpile #3										
Lab #0723	08-06-07	1.1	43.2	12.0	43.7	92.9	1.1	61.7	459	14
Lab #0940	09-12-07	0.5	40.9	12.7	45.9	93.1	1.1	63.7	475	14
Lab #1131	10-10-07	0.8	43.4	11.5	44.3	92.7	1.0	62.1	460	12
Lab #1293	11-07-07	0.6	42.2	12.4	44.8	92.9	1.0	62.8	467	13
CENTRAL STONE CO - FORT BELLE - #31, FLORISSANT, MO										
Stockpile #1										
Lab #0849	08-27-07	0.0	0.7	4.2	95.1	88.3	2.7	97.8	691	53
Lab #1098	09-28-07	0.0	1.7	8.5	89.8	86.9	1.5	95.3	663	29
Lab #1328	11-13-07	0.0	2.1	6.8	91.1	86.4	3.3	95.7	662	63
Lab #1445	12-07-07	0.0	2.1	11.9	86.0	92.5	1.3	93.7	693	24
CENTRAL STONE COMPANY - PARIS, PARIS, MO										
Stockpile #2										
Lab #0718	08-02-07	1.6	45.6	13.4	39.4	88.3	0.4	58.8	416	5
Lab #0928	09-06-07	1.8	48.0	12.4	37.8	89.3	0.4	57.2	409	5
Lab #1136	10-12-07	1.2	45.9	14.3	38.6	89.5	0.3	58.7	420	4
Lab #1286	11-06-07	1.7	49.0	13.0	36.3	89.3	0.2	56.4	403	2
CENTRAL STONE COMPANY - CURRYVILLE, CURRYVILLE, MO										
Stockpile #1										
Lab #0807	08-10-07	2.5	45.0	11.4	41.1	87.5	1.5	59.2	414	18
Lab #1018	09-18-07	1.7	46.5	10.2	41.6	85.6	1.7	59.3	406	20
CENTRAL STONE COMPANY - PERRY, HANNIBAL, MO										
Stockpile #1										
Lab #0728	08-07-07	5.9	42.3	8.5	43.3	86.3	2.4	59.0	407	28
Lab #0931	09-10-07	5.2	39.4	8.7	46.7	86.3	2.6	61.8	426	32
CENTRAL STONE COMPANY - EWING, HANNIBAL, MO										
Stockpile #1										
Lab #0847	08-23-07	3.4	37.6	9.3	49.7	83.7	1.3	64.7	433	17
Lab #1022	09-19-07	5.8	35.1	8.3	50.8	84.9	1.3	64.6	438	17
CENTRAL STONE COMPANY - TAYLOR, TAYLOR, MO										
Stockpile #2										
Lab #0731	08-07-07	6.9	47.8	11.1	34.2	87.4	0.8	52.8	369	8
Lab #0934	09-10-07	8.2	42.3	10.4	39.1	85.9	0.9	55.9	384	10
Lab #1159	10-16-07	8.1	50.1	10.2	31.6	85.2	0.6	50.2	342	6
Lab #1326	11-12-07	6.0	44.5	12.4	37.1	81.2	0.8	55.7	362	9
CLEVER STONE CO, CLEVER, MO										
Stockpile #1										
Lab #0743	08-06-07	0.3	46.1	15.1	38.5	87.6	0.2	59.1	414	2
Lab #0907	09-05-07	0.2	47.5	13.3	39.0	91.7	0.2	58.9	432	2
Lab #1329	11-16-07	0.4	50.6	13.1	35.9	91.7	0.2	56.4	414	2
Stockpile #2										
Lab #1330	11-16-07	0.0	0.5	9.1	90.4	86.3	0.2	96.0	663	4
CONCO QUARRIES, SPRINGFIELD, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Stockpile #1										
Lab #1011	09-20-07	0.1	6.8	13.6	79.5	96.8	0.2	89.4	692	4
Stockpile #4										
Lab #1013	09-20-07	2.6	12.0	8.6	76.8	96.6	0.2	85.0	657	3
Stockpile #5										
Lab #1012	09-20-07	0.1	18.7	18.0	63.2	96.7	0.3	78.7	609	5
COUNTY LINE QUARRY, WELLSVILLE, MO										
Stockpile #1										
Lab #0889	08-30-07	5.0	46.0	8.2	40.8	89.8	4.7	57.2	411	54
Lab #1135	10-11-07	3.1	48.0	9.7	39.2	91.0	4.2	57.0	415	48
Lab #1297	11-08-07	4.3	46.0	9.6	40.1	93.4	5.1	57.4	429	59

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Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
CRAWFORD LIME & MATERIAL CO, CUBA, MO										
Stockpile #1										
Lab #0800	08-15-07	2.2	42.3	11.4	44.1	90.5	10.5	61.5	445	129
Lab #1188	10-22-07	0.8	37.2	15.7	46.3	97.3	11.8	65.0	506	153
Lab #1375	11-20-07	0.6	44.0	10.4	45.0	85.4	10.0	62.2	425	124
CRIDER BROTHERS LIME CO., INC., EMINENCE, MO										
DELEWARE STONE LLC, WINONA, MO										
Stockpile #1										
Lab #0982	09-18-07	0.1	37.9	14.7	47.3	99.7	11.7	65.6	523	153
Lab #1074	10-04-07	1.4	41.0	14.0	43.6	96.9	11.4	62.3	483	142
Lab #1181	10-15-07	2.8	36.4	13.0	47.8	99.0	11.9	64.7	512	154
Lab #1352	11-06-07	0.1	49.4	13.8	36.7	93.8	11.1	57.3	430	127
DOSS & HARPER STONE CO., HOUSTON, MO										
DOUBLE EAGLE AGGREGATES, MILLER, MO										
Stockpile #1										
Lab #1078	10-04-04	4.3	45.5	9.6	40.6	83.7	10.0	57.7	387	115
Lab #1462	12-06-07	13.0*	41.5	10.1	35.4	87.9	10.1	51.8	0	0
EVERETT QUARRIES #1-LATHROP, PLATTSBURG, MO										
Stockpile #2										
Lab #0774	08-13-07	0.4	48.4	10.2	41.0	85.4	0.8	59.2	405	9
Lab #0998	09-18-07	0.4	49.4	11.3	38.9	83.9	0.9	58.0	389	10
Lab #1199	10-24-07	0.3	50.0	12.0	37.7	72.6	1.5	57.4	333	17
Lab #1356	11-19-07	0.2	45.8	11.9	42.1	86.2	0.8	60.7	419	10
EVERETT QUARRIES #6-KING, PLATTSBURG, MO										
Stockpile #1										
Lab #0762	08-06-07	0.8	44.0	12.3	42.9	83.9	1.1	61.3	411	13
Lab #0878	08-29-07	0.7	45.4	11.1	42.8	83.5	1.1	60.8	406	13
Lab #0989	09-18-07	4.2	48.0	9.3	38.5	85.4	0.9	56.1	383	10
Lab #1153	10-12-07	4.2	46.0	10.5	39.3	85.5	0.9	57.1	391	10
EVERETT QUARRIES #53-CAMERON, PLATTSBURG, MO										
Stockpile #1										
Lab #0700	08-03-07	0.4	46.8	11.5	41.3	71.2	2.4	59.9	341	29
Lab #1001	09-20-07	0.6	46.9	11.3	41.2	69.6	2.4	59.7	332	29
Lab #1196	10-24-07	0.3	50.7	11.8	37.2	81.8	1.2	57.0	373	14
Lab #1446	12-05-07	0.5	47.6	11.6	40.3	73.0	2.1	59.2	345	25
Stockpile #2										
Lab #1452	12-05-07	0.3	49.0	12.1	38.6	82.5	1.2	58.1	384	14
EVERETT QUARRIES #54-GOWER, PLATTSBURG, MO										
Stockpile #3										
Lab #0843	08-20-07	0.7	48.6	13.6	37.1	83.1	0.9	57.4	382	10
Lab #1000	09-19-07	0.3	47.8	11.6	40.3	82.4	0.7	59.2	390	8
Lab #1198	10-23-07	0.5	50.7	12.0	36.8	82.2	0.8	56.7	373	9
Lab #1447	12-03-07	1.2	50.4	11.8	36.6	82.0	0.8	56.3	369	9
EVERETT QUARRIES #59-STANBERRY, PLATTSBURG, MO										
Stockpile #1										
Lab #0695	08-01-07	0.8	48.0	10.1	41.1	77.0	1.6	59.2	364	19
Lab #0874	08-29-07	3.9	40.2	10.5	45.4	71.3	1.6	61.8	352	20
Lab #1031	09-24-07	0.6	44.4	10.9	44.1	74.5	1.7	61.7	368	21
Lab #1200	10-24-07	0.2	43.9	11.4	44.5	79.1	1.4	62.3	394	17
Lab #1451	12-05-07	0.5	48.3	13.5	37.7	79.3	1.7	57.9	367	20
FALL VALLEY STONE, INC., REPUBLIC, MO										
Stockpile #1										
Lab #0787	08-15-07	0.2	27.1	15.0	57.7	101.0	11.5	73.5	594	169
Lab #1235	11-01-07	0.4	41.5	12.6	45.5	102.0	11.5	63.4	518	146
FARMERS LITTER & LIME, SIKESTON, MO										
FISCHER QUARRIES LLC, HUGHESVILLE, MO										
Stockpile #1										
Lab #0693	08-03-07	6.1	45.6	10.4	37.9	94.7	2.1	55.5	421	23
Lab #0885	08-29-07	6.5	48.1	8.5	36.9	92.6	3.1	54.0	400	33
Lab #1027	09-24-07	7.1	46.0	10.4	36.5	94.6	2.0	54.2	410	22
Lab #1176	10-19-07	3.5	50.9	11.2	34.4	94.2	2.5	53.8	406	27
Lab #1281	11-08-07	3.7	45.5	10.8	40.0	95.2	1.8	57.9	441	21
Lab #1384	11-28-07	4.3	46.5	11.2	38.0	94.2	2.5	56.3	425	28
Stockpile #3										
Lab #0694	08-03-07	7.3	44.2	10.1	38.4	94.9	2.0	55.5	421	22
Lab #0886	08-29-07	8.3	47.0	8.8	35.9	92.1	3.2	52.9	390	34
Lab #1028	09-24-07	3.1	51.4	10.7	34.8	90.6	4.4	54.1	392	48

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
FISCHER QUARRIES LLC, HUGHESVILLE, MO (Continued)										
Stockpile #3										
Lab #1177	10-19-07	3.2	48.3	11.7	36.8	92.3	2.9	55.9	413	32
Lab #1282	11-08-07	7.5	48.6	10.0	33.9	91.5	4.0	52.1	381	42
Lab #1385	11-28-07	7.8	47.5	10.6	34.1	95.4	1.8	52.3	399	19
GABEL STONE COMPANY INC., WILLOW SPRINGS, MO										
Stockpile #1										
Lab #0953	09-10-07	2.7	48.4	14.4	34.5	90.7	10.9	55.2	401	120
Lab #1395	11-28-07	3.3	51.6	13.8	31.3	88.8	10.6	52.5	373	111
GLASGOW QUARRIES-GILLIAM, GILLIAM, MO										
Stockpile #1										
Lab #0842	08-23-07	11.2*	46.5	7.2	35.1	88.9	5.4	51.0	0	0
GLASGOW QUARRIES - MARCELINE, MARCELINE, MO										
HARVEY PRODUCTS INC, PORTLAND, OR										
HIGGINS - MEEKER QUARRIES LLC, DEEPWATER, MO										
Stockpile #1										
Lab #1370	11-20-07	2.0	44.3	9.2	44.5	49.1*	3.6	61.1	0	0
Lab #1420	11-28-07	1.3	45.9	11.1	41.7	53.1*	4.4	59.8	0	0
HILTY QUARRIES, INC. - QUARLES, CLINTON, MO										
Stockpile #6										
Lab #0827	08-21-07	3.1	58.4	8.7	29.8	78.8	0.7	49.6	313	7
Lab #0984	09-18-07	0.8	60.4	10.7	28.1	78.4	0.5	49.6	311	5
Lab #1243	10-30-07	2.9	50.0	13.2	33.9	80.0	0.5	54.3	348	5
Lab #1419	11-28-07	1.6	54.6	11.4	32.4	78.2	0.5	52.9	331	5
HILTY QUARRIES, INC. - MONTROSE, CLINTON, MO										
Stockpile #3										
Lab #0683	08-01-07	0.3	45.6	12.3	41.8	90.9	0.6	60.6	441	7
Lab #0903	09-05-07	0.2	43.3	12.2	44.3	88.5	0.7	62.4	442	9
Lab #1106	10-09-07	0.0	42.1	12.6	45.3	92.7	0.3	63.4	470	4
Lab #1341	11-14-07	0.6	40.9	14.9	43.6	92.7	0.4	62.8	465	5
Lab #1477	12-13-07	0.5	44.4	11.7	43.4	92.5	0.5	61.5	455	6
HILTY QUARRIES, INC- SOUTH-DELL JCT, CLINTON, MO										
Stockpile #1										
Lab #0830	08-23-07	3.7	42.0	11.2	43.1	81.9	4.0	60.3	395	48
Lab #1163	10-17-07	1.9	46.4	13.5	38.2	91.1	1.3	57.9	422	15
Lab #1343	11-15-07	7.3	45.7	10.0	37.0	79.4	3.6	54.4	346	39
HILTY QUARRIES, INC - TIGHTWAD, CLINTON, MO										
Stockpile #1										
Lab #0828	08-23-07	0.8	42.8	14.0	42.4	92.1	0.9	61.5	453	11
Lab #1059	09-28-07	0.2	42.4	13.5	43.9	89.2	0.5	62.6	447	6
Lab #1164	10-17-07	0.2	41.6	12.7	45.5	96.0	0.2	63.5	488	3
Lab #1344	11-15-07	0.8	46.9	15.7	36.6	93.6	0.6	57.7	432	7
Stockpile #2										
Lab #0829	08-23-07	1.7	51.5	9.2	37.6	70.3	4.2	56.0	315	47
Lab #1060	09-28-07	9.3	51.9	7.4	31.4	81.9	4.0	48.8	320	39
Lab #1165	10-17-07	2.4	52.8	9.6	35.2	75.2	2.8	54.2	326	30
Stockpile #3										
Lab #1346	11-15-07	1.4	44.4	13.0	41.2	91.3	0.7	60.1	439	8
Lab #1345	11-16-07	0.8	44.6	12.5	42.1	91.9	0.5	60.8	447	6
Lab #1368	11-20-07	0.3	42.1	14.7	42.9	92.5	0.5	62.2	461	6
Lab #1418	11-28-07	0.3	45.8	12.8	41.1	94.2	0.9	60.2	454	11
HILTY QUARRIES, INC. - URICH, CLINTON, MO										
Stockpile #2										
Lab #0826	08-21-07	0.8	50.0	10.0	39.2	77.9	1.6	57.7	360	18
Lab #0904	09-05-07	1.1	51.7	10.3	36.9	79.2	1.0	56.0	355	11
Lab #1107	10-09-07	1.2	54.3	9.6	34.9	76.0	1.1	54.2	330	12
Lab #1342	11-14-07	0.6	52.9	12.0	34.5	76.4	0.9	54.9	336	10
Lab #1476	12-13-07	0.8	53.1	9.9	36.2	78.6	1.0	55.4	348	11
HILTY QUARRIES INC.-WARRENSBURG, CLINTON, MO										
Stockpile #4										
Lab #0689	08-02-07	3.6	52.1	8.8	35.5	76.9	1.1	53.8	331	12
Lab #0887	08-30-07	5.1	59.3	9.7	25.9	77.6	1.1	46.5	289	10
Lab #1072	10-01-07	5.6	57.8	10.0	26.6	77.0	1.0	47.1	290	9
Lab #1202	10-26-07	4.8	54.8	10.4	30.0	76.5	1.1	49.9	306	11
Lab #1373	11-21-07	3.9	56.9	10.0	29.2	76.7	1.1	49.4	303	11
HOSTETLER QUARRY, BUFFALO, MO										
HUNT-MARTIN MATERIALS, PARKVILLE, MO										

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
HUNT-MARTIN MATERIALS - STAMPER, KANSAS CITY, MO										
Stockpile #1										
Lab #1415	11-30-07	3.8	46.2	11.5	38.5	91.5	0.7	57.0	417	8
Stockpile #2										
Lab #0781	08-17-07	1.4	34.1	14.5	50.0	92.3	0.7	67.2	496	9
Lab #0999	09-19-07	0.6	33.6	13.7	52.1	90.1	0.8	68.7	495	11
Lab #1197	10-23-07	8.7	52.3	7.3	31.7	92.8	0.8	49.2	365	8
Lab #1414	11-30-07	3.6	48.7	10.8	36.9	91.8	0.7	55.6	408	8
Lab #1448	12-03-07	7.8	46.4	9.7	36.1	92.6	0.6	53.5	396	6
Lab #1472	12-10-07	5.9	45.5	10.2	38.4	92.3	0.6	55.9	413	7
HUTCHENS CONSTRUCTION-PURDY, CASSVILLE, MO										
Stockpile #2										
Lab #0786	08-14-07	1.0	44.5	13.9	40.6	84.1	0.1	60.1	404	1
Lab #0959	09-14-07	0.6	43.8	14.1	41.5	85.6	0.2	60.9	417	2
Lab #1205	10-26-07	2.4	48.6	14.0	35.0	80.7	0.1	55.6	359	1
HUTCHENS CONSTRUCTION-EAGLE ROCK, CASSVILLE, MO										
Stockpile #2										
Lab #0748	08-09-07	1.1	39.3	12.0	47.6	87.8	10.6	64.6	454	137
Lab #1118	10-12-07	0.7	39.7	10.6	49.0	90.2	10.6	65.3	471	138
Lab #1465	12-07-07	1.1	39.6	11.2	48.1	89.0	10.3	64.7	461	133
HUTCHENS CONSTRUCTION CO-SHELL KNOB, CASSVILLE, MO										
Stockpile #1										
Lab #0747	08-09-07	5.4	39.3	7.9	47.4	91.3	11.0	62.0	453	136
Lab #1119	10-12-07	1.6	46.7	9.4	42.3	89.1	10.7	59.6	425	128
Lab #1464	12-07-07	2.2	51.6	9.9	36.3	93.3	10.7	55.1	412	118
HUTCHENS CONSTRUCTION-WASHBURN, CASSVILLE, MO										
JENKINS QUARRY, CASSVILLE, MO										
Stockpile #1										
Lab #0784	08-14-07	0.8	50.2	7.9	41.1	92.0	11.0	58.4	430	128
Lab #1015	09-21-07	7.4	46.4	7.3	38.9	89.8	9.9	54.9	394	109
Lab #1079	10-05-07	0.1	39.8	9.9	50.2	90.7	10.5	66.1	480	139
JOPLIN STONE CO Q DUENWEG, JOPLIN, MO										
Stockpile #2										
Lab #0745	08-07-07	0.1	19.5	21.3	59.1	95.8	0.1	76.8	588	2
Lab #1311	11-09-07	0.0	19.1	21.3	59.6	95.2	0.2	77.2	588	3
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Stockpile #1										
Lab #0725	08-06-07	8.7	44.8	9.3	37.2	91.1	0.8	54.0	393	9
Lab #0941	09-12-07	8.3	41.1	10.3	40.3	89.5	1.5	56.8	406	17
Stockpile #3										
Lab #0726	08-06-07	3.9	8.6	7.2	80.3	85.8	0.6	86.8	596	10
Lab #0942	09-12-07	4.9	6.4	1.9	86.8	88.7	0.7	89.5	635	13
Lab #1133	10-10-07	0.8	43.4	11.5	44.3	92.7	1.0	62.1	460	12
Lab #1295	11-07-07	0.4	2.6	8.2	88.8	97.0	0.7	94.4	732	13
Stockpile #4										
Lab #0727	08-06-07	0.3	5.3	5.5	88.9	88.9	0.9	93.5	665	17
Lab #0943	09-12-07	0.2	12.1	7.2	80.5	88.9	1.5	87.8	625	26
Lab #1134	10-10-07	4.8	17.8	5.7	71.7	87.6	1.1	79.6	558	18
Lab #1296	11-07-07	5.2	18.2	6.9	69.7	88.3	1.1	78.4	554	17
KEMP STONE, INC, PRYOR, OK										
Stockpile #1										
Lab #0790	08-16-07	1.1	44.0	14.6	40.3	83.0	0.1	60.1	399	1
Lab #1233	10-30-07	1.3	43.6	13.4	41.7	72.0	0.2	60.6	349	2
KERFORD LIMESTONE CO, WEEPING WATER, NE										
Stockpile #1										
Lab #0844	08-21-07	0.0	1.1	0.6	98.3	90.0	0.6	98.9	712	12
Lab #1449	12-04-07	0.0	0.3	0.2	99.5	92.4	0.5	99.7	737	10
KNOX COUNTY STONE CO, EDINA, MO										
Stockpile #2										
Lab #0890	09-04-07	1.0	39.7	11.3	48.0	93.1	3.3	64.7	482	43
Lab #1099	10-04-07	0.7	34.9	11.1	53.3	92.4	2.8	68.7	508	38
Lab #1277	11-01-07	0.6	39.8	12.4	47.2	95.3	0.6	64.6	492	8
Lab #1470	12-13-07	2.2	39.2	11.1	47.5	90.8	2.4	64.0	465	31

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
L & W QUARRIES, INC - CLARKDALE #8, CENTERVILLE, IA										
Stockpile #1										
Lab #0865	08-21-07	1.2	47.4	11.3	40.1	81.6	0.5	58.7	383	6
Lab #0991	09-20-07	1.5	50.3	10.2	38.0	79.9	0.3	56.7	362	3
Lab #1168	10-18-07	1.6	49.6	10.9	37.9	81.6	0.4	56.8	371	5
L & W QUARRIES, INC - WALNUT CITY, CENTERVILLE, IA										
Stockpile #1										
Lab #0866	08-21-07	7.1	51.8	9.0	32.1	88.9	0.6	50.5	359	6
Lab #0992	09-20-07	6.5	55.3	10.7	27.5	90.2	0.4	47.7	345	4
Lab #1167	10-18-07	9.0	55.3	8.9	26.8	89.1	0.4	46.0	328	4
Lab #1391	11-26-07	6.4	54.6	12.0	27.0	91.6	0.6	47.9	351	6
L & W QUARRIES INC., CENTERVILLE, IA										
Stockpile #1										
Lab #0891	09-05-07	0.8	40.6	13.0	45.6	86.0	0.3	63.6	437	4
Lab #1100	10-05-07	0.7	39.4	11.8	48.1	83.3	0.4	65.0	433	5
Lab #1278	11-02-07	0.8	40.9	10.6	47.7	83.1	1.6	64.3	427	21
Lab #1471	12-14-07	0.8	40.0	9.8	49.4	79.4	1.9	65.3	415	25
Stockpile #2										
Lab #0892	09-05-07	8.5	45.0	9.1	37.4	91.1	0.3	54.1	394	3
Lab #1101	10-05-07	8.3	43.2	9.5	39.0	91.6	0.2	55.5	407	2
Lab #1279	11-02-07	9.1	43.4	10.0	37.5	92.0	0.2	54.4	400	2
LAFARGE QUARRY, SEDALIA, MO										
Stockpile #3										
Lab #0690	08-03-07	4.3	58.0	9.1	28.6	92.0	0.8	48.6	357	8
Lab #0881	08-29-07	2.6	49.5	8.8	39.1	85.0	3.6	56.8	386	41
Lab #1023	09-24-07	4.4	46.7	8.5	40.4	85.6	3.2	57.2	392	37
Lab #1179	10-19-07	4.0	47.2	8.8	40.0	70.8	5.4	57.1	323	62
Lab #1285	11-08-07	2.6	53.7	10.6	33.1	89.8	2.1	52.9	380	22
Lab #1379	11-28-07	6.6	51.7	7.1	34.6	86.7	4.2	51.8	359	43
LAFARGE CORPORATION, SEDALIA, MO										
LEAD BELT MATERIALS, PARK HILLS, MO										
Stockpile #1										
Lab #1035	09-27-07	1.8	49.7	11.1	37.4	102.1	11.3	56.5	461	128
Lab #1266	10-30-07	2.7	50.8	11.3	35.2	102.6	11.4	54.7	449	125
Lab #1271	10-31-07	2.3	50.8	11.2	35.7	102.0	11.2	55.1	450	123
LILE QUARRY INC., STRAFFORD, MO										
Stockpile #1										
Lab #0957	09-11-07	2.9	50.4	7.2	39.5	81.3	9.9	56.4	367	112
MAGIC GREEN CORPORATION, LOUISIANA, MO										
Stockpile #1										
Lab #0936	09-11-07	0.0	0.5	0.9	98.6	87.6	0.3	99.3	696	6
MAGRUDER LIMESTONE CO-ASHLEY, BOWLING GREEN, MO										
Stockpile #1										
Lab #0846	08-22-07	0.4	42.9	9.9	46.8	95.5	1.3	63.5	485	17
Lab #1069	09-26-07	0.7	45.3	10.7	43.3	95.8	1.1	61.0	468	13
Lab #1224	10-23-07	1.6	49.1	5.9	43.4	80.9	2.5	59.2	383	30
Lab #1361	11-19-07	0.2	44.4	10.0	45.4	87.3	1.6	62.5	437	20
MAGRUDER LIMESTONE CO, INC.-BOWLING, BOWLING GREEN, MO										
Stockpile #1										
Lab #0810	08-10-07	1.5	46.9	22.9	28.7	92.7	1.1	54.2	402	12
Lab #1021	09-18-07	1.0	46.1	11.1	41.8	93.2	1.2	60.0	447	14
Lab #1223	10-19-07	1.0	43.6	10.1	45.3	92.8	1.1	62.3	462	14
Lab #1362	11-19-07	0.1	43.8	12.0	44.1	90.2	1.0	62.3	449	12
MAGRUDER LIMESTONE CO-FRANKFORD, BOWLING GREEN, MO										
Stockpile #1										
Lab #0808	08-10-07	0.9	39.4	12.2	47.5	95.9	1.2	64.7	496	16
Lab #1019	09-18-07	0.6	40.4	11.6	47.4	95.0	1.2	64.5	490	15
Lab #1221	10-19-07	2.7	42.4	12.8	42.1	95.8	1.4	60.4	463	17
Lab #1360	11-19-07	4.2	43.6	11.2	41.0	96.4	1.8	58.6	452	21
MAGRUDER LIMESTONE - SILEX QUARRY, TROY, MO										
Stockpile #2										
Lab #0719	08-03-07	6.5	49.4	8.1	36.0	93.9	3.3	53.2	400	35
Lab #0935	09-11-07	5.6	47.3	8.6	38.5	90.7	3.3	55.5	403	37
Lab #1219	10-17-07	3.0	51.1	10.2	35.7	86.9	2.6	54.6	380	28
Lab #1363	11-20-07	3.7	43.8	8.4	44.1	91.0	3.0	60.1	437	36

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
MAGRUDER LIMESTONE CO Q TROY, TROY, MO										
Stockpile #1										
Lab #0720	08-03-07	2.1	52.3	9.1	36.5	80.8	1.7	55.0	356	19
Lab #0937	09-11-07	2.3	51.8	9.5	36.4	80.5	1.6	55.1	355	18
Lab #1220	10-17-07	3.5	52.4	10.1	34.0	84.9	1.8	53.2	361	19
Lab #1364	11-20-07	4.7	49.3	8.7	37.3	86.6	2.1	54.8	380	23
MANSFIELD LIME & STONE, MANSFIELD, MO										
Stockpile #2										
Lab #0836	08-23-07	0.9	43.5	8.9	46.7	83.3	9.5	62.9	419	120
Lab #1401	11-29-07	0.3	48.7	8.9	42.1	85.5	10.5	59.6	408	125
MARTIN MARIETTA AGG - APPLETON, PERRYVILLE, MO										
Stockpile #1										
Lab #0868	08-28-07	0.8	62.4	9.9	26.9	93.8	1.6	48.4	363	16
Lab #1128	10-11-07	1.0	44.4	13.3	41.3	95.5	1.8	60.4	461	22
Lab #1228	10-30-07	0.7	60.9	10.5	27.9	95.6	1.8	49.4	378	18
MARTIN MARIETTA AGGREGATE-FREDONIA, FREDONIA, KY										
MARTIN MARIETTA AGG-PERRYVILLE, PERRYVILLE, MO										
Stockpile #1										
Lab #1008	09-18-07	1.5	7.0	4.9	86.6	93.4	1.9	91.3	682	35
Lab #1270	10-31-07	0.3	17.7	12.6	69.4	94.5	1.7	81.4	615	28
MARTIN MARIETTA AGGREGATES INC, WEEPING WATER, NE										
Stockpile #1										
Lab #0845	08-21-07	7.4	52.7	9.6	30.3	90.6	0.5	49.2	357	5
Lab #1450	12-04-07	3.4	49.5	10.6	36.5	88.4	0.6	55.2	391	7
MERTENS CONST CO-AUXVASSE, KINGDOM CITY, MO										
Stockpile #1										
Lab #0732	08-09-07	9.1	48.8	8.6	33.5	91.7	4.6	50.9	373	47
Lab #0921	09-14-07	2.4	52.5	8.7	36.4	88.0	4.7	54.7	385	51
Lab #1139	10-15-07	8.5	48.3	9.9	33.3	93.4	3.0	51.3	383	31
Lab #1299	11-09-07	8.6	53.9	9.1	28.4	95.4	0.7	47.3	361	7
Stockpile #2										
Lab #1298	11-09-07	11.7*	53.5	8.6	26.2	96.5	0.9	44.7	0	0
Stockpile #3										
Lab #0733	08-09-07	10.3*	51.1	9.0	29.6	95.1	0.3	47.8	0	0
Lab #0922	09-14-07	9.9	51.9	7.0	31.2	95.1	0.4	48.4	368	4
Lab #1140	10-15-07	8.6	52.6	8.7	30.1	95.1	0.3	48.5	369	3
Lab #1300	11-09-07	9.4	52.8	8.9	28.9	95.6	0.3	47.4	363	3
MERTENS CONST CO-Q-REFORM, KINGDOM CITY, MO										
Stockpile #1										
Lab #0860	08-24-07	6.0	48.1	11.2	34.7	88.2	1.0	53.4	377	11
Lab #1037	09-28-07	11.0*	56.8	8.2	24.0	89.6	1.9	43.1	0	0
Lab #1313	11-05-07	6.1	53.7	10.0	30.2	88.7	1.7	49.6	352	17
Stockpile #2										
Lab #0861	08-24-07	3.2	43.3	12.9	40.6	84.3	4.0	59.2	399	47
Lab #1038	09-28-07	8.8	48.0	9.0	34.2	75.3	4.4	51.6	311	45
Lab #1314	11-05-07	4.0	44.1	11.3	40.6	76.1	4.1	58.4	356	48
MFA INC, COLUMBIA, MO										
MID-COUNTY MATERIALS, WAYNESVILLE, MO										
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO										
Stockpile #1										
Lab #0704	08-03-07	6.9	50.5	11.7	30.9	90.5	0.2	50.5	366	2
Lab #1036	09-28-07	6.3	50.6	12.1	31.0	92.5	0.5	50.9	377	5
Lab #1263	10-29-07	5.3	49.4	12.8	32.5	90.8	0.2	52.5	382	2
MID-MISSOURI LIMESTONE, INC.-HOUSTO, KINGDOM CITY, MO										
Stockpile #1										
Lab #0691	08-03-07	5.5	50.5	7.7	36.3	83.1	5.0	53.5	356	54
Lab #0884	08-29-07	3.1	51.7	10.1	35.1	83.7	4.6	54.1	362	50
Lab #1025	09-24-07	4.6	52.0	8.0	35.4	83.7	5.3	53.2	356	56
Lab #1174	10-19-07	4.7	51.3	9.6	34.4	81.6	5.4	53.0	346	57
Lab #1283	11-08-07	4.6	51.2	10.2	34.0	86.4	3.8	52.9	366	40
Lab #1383	11-28-07	4.7	52.0	8.9	34.4	82.7	5.2	52.7	349	55
Stockpile #3										
Lab #0692	08-03-07	4.1	48.3	7.3	40.3	83.1	4.3	56.8	377	49
Lab #1026	09-24-07	3.4	50.6	7.8	38.2	86.8	4.6	55.5	386	51
Lab #1175	10-19-07	5.4	43.8	7.7	43.1	65.8	3.1	58.7	309	36
Lab #1284	11-08-07	4.0	48.8	8.7	38.5	79.6	4.3	55.9	356	48

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
MID-MISSOURI LIMESTONE-RIGGS, KINGDOM CITY, MO										
Stockpile #1										
Lab #0734	08-09-07	6.9	55.4	7.4	30.3	91.7	6.9	48.6	356	67
Lab #0923	09-14-07	4.1	53.2	9.0	33.7	91.6	6.8	52.4	384	71
Lab #1141	10-15-07	4.6	54.2	8.7	32.5	87.8	4.7	51.3	360	48
Lab #1301	11-09-07	5.3	51.9	10.6	32.2	89.2	5.7	51.5	368	59
MIDWEST MINERALS INC - JASPER, PITTSBURG, KS										
Stockpile #1										
Lab #1010	09-18-07	0.8	37.8	15.5	45.9	97.6	0.1	64.7	505	1
Lab #1457	12-03-07	0.8	37.9	15.7	45.6	93.7	0.1	64.5	483	1
MISSISSIPPI LIME COMPANY, STE GENEVIEVE, MO										
Stockpile #1										
Lab #1006	09-17-07	0.1	0.2	0.5	99.2	98.3	0.2	99.6	783	4
Lab #1347	10-31-07	0.0	0.5	0.8	98.7	98.9	0.2	99.3	786	4
Stockpile #3										
Lab #1007	09-17-07	0.0	41.1	32.1	26.8	98.3	0.2	56.3	443	2
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO										
Stockpile #2										
Lab #0854	08-20-07	0.0	1.0	6.5	92.5	97.7	5.3	96.7	755	102
Lab #1404	11-26-07	0.0	0.5	3.1	96.4	99.0	6.3	98.4	779	124
MK MINERALS INC., MANHATTAN, KS										
Stockpile #1										
Lab #0780	08-16-07	0.1	0.7	1.9	97.3	90.5	0.6	98.6	714	12
Lab #0997	09-17-07	0.0	0.2	1.7	98.1	89.0	0.5	99.2	706	10
Lab #1156	10-16-07	0.3	1.2	1.8	96.7	89.3	0.6	98.1	701	12
Lab #1413	11-29-07	0.3	1.4	2.3	96.0	89.6	0.7	97.7	701	14
MO VALLEY GRAIN & PELLETIZING, MISSOURI VALLEY, IA										
MORRIS ROCK, DEERFIELD, MO										
Stockpile #1										
Lab #0794	08-14-07	4.0	49.5	10.1	36.4	92.5	0.7	54.8	406	8
Lab #1050	09-24-07	3.8	60.2	9.3	26.7	92.7	0.9	47.3	351	9
Lab #1416	11-27-07	3.1	55.3	11.5	30.1	93.0	1.0	50.8	378	10
MOUNTAIN GROVE QUARRY, MOUNTAIN GROVE, MO										
Stockpile #1										
Lab #0831	08-23-07	0.2	49.4	8.3	42.1	89.1	10.3	59.4	424	122
Lab #1396	11-28-07	3.4	46.9	9.2	40.5	85.1	10.5	57.7	393	121
MUEKNS BROTHERS QUARRIES, INC-WEST, LOOSE CREEK, MO										
Stockpile #2										
Lab #0742	08-09-07	0.7	41.4	10.4	47.5	87.9	10.6	64.1	451	136
Lab #1009	09-19-07	2.4	42.4	9.5	45.7	89.1	10.2	62.0	442	126
Lab #1455	12-03-07	1.5	42.6	11.3	44.6	87.7	10.1	62.0	435	125
MUEKNS BROS. QUARRY, LOOSE CREEK, MO										
Stockpile #2										
Lab #0856	08-22-07	0.3	40.3	10.4	49.0	84.0	10.2	65.3	439	133
Lab #1039	09-24-07	0.3	43.0	9.6	47.1	84.7	10.2	63.6	431	130
Lab #1315	11-05-07	2.5	40.5	10.6	46.4	86.0	10.4	62.9	433	131
Lab #1454	12-06-07	0.6	49.2	10.0	40.2	83.7	9.7	58.5	392	113
KEITH MURRAY, PLATO, MO										
Stockpile #1										
Lab #0823	08-23-07	0.1	5.5	30.3	64.1	95.1	11.0	83.7	636	184
Lab #1397	11-28-07	8.2	21.7	6.9	63.2	98.9	1.0	72.8	576	15
NELSON BROS. QUARRIES, JASPER, MO										
Stockpile #1										
Lab #1458	12-03-07	0.2	27.8	18.6	53.4	96.6	0.2	71.5	553	3
NEMO SAND & GRAVEL, QUARRY, PITTSBURG, MO										
Stockpile #1										
Lab #0797	08-16-07	2.2	41.0	9.5	47.3	83.4	9.5	63.3	422	120
Lab #0905	09-06-07	0.1	45.0	8.2	46.7	86.5	10.4	62.9	435	131
Lab #1080	10-03-07	1.7	50.2	7.2	40.9	82.7	9.6	57.8	382	111
Lab #1339	11-13-07	0.0	40.1	8.4	51.5	87.2	10.6	66.6	464	141
Lab #1441	12-07-07	1.4	41.0	8.5	49.1	86.7	10.4	64.5	447	134

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
PELLETIZING COMPANY INC, GORDONSVILLE, TN										
PHENIX ROCK, ASH GROVE, MO										
Stockpile #1										
Lab #1234	11-01-07	12.2*	53.5	10.2	24.1	94.1	0.1	43.6	0	0
PRESTAGE QUARRIES INC, TIPTON, MO										
Stockpile #1										
Lab #0773	08-14-07	0.3	35.9	8.7	55.1	74.1	6.4	69.3	411	89
Lab #0920	09-10-07	0.3	41.0	9.2	49.5	80.3	5.6	65.3	419	73
Lab #1103	10-09-07	0.5	36.7	10.2	52.6	73.6	6.4	67.9	400	87
Lab #1350	11-16-07	0.2	43.1	9.8	46.9	76.9	7.4	63.6	391	94
GRISHAM GRADING & EXCAVATING, INC, PLATT CITY, MO										
Stockpile #1										
Lab #1473	12-14-07	18.5*	32.7	7.9	40.9	73.8	1.5	53.8	0	0
S & A CONSTRUCTION LTD, ALLENDALE, MO										
Stockpile #1										
Lab #0696	08-01-07	0.1	47.3	10.3	42.3	70.1	1.4	60.3	338	17
Lab #0909	09-07-07	0.4	49.6	12.7	37.3	76.1	1.0	57.3	349	11
Lab #1095	10-05-07	1.0	58.6	8.2	32.2	77.6	0.9	51.8	321	9
Lab #1308	11-05-07	1.5	45.6	11.4	41.5	75.4	1.1	59.7	360	13
SCHILDBERG CONST. CO.-BEDFORD Q., GREENFIELD, IA										
Stockpile #1										
Lab #0698	08-02-07	2.0	41.4	10.2	46.4	83.3	0.8	62.9	419	10
Lab #0910	09-07-07	2.3	41.3	11.0	45.4	82.9	0.8	62.3	413	10
Lab #1111	10-08-07	2.3	40.8	10.0	46.9	81.8	0.7	63.1	413	9
Lab #1358	11-20-07	2.0	40.8	9.8	47.4	82.6	0.7	63.5	419	9
SCHILDBERG CONST. CO.-GRAHAM MO Q, GREENFIELD, IA										
Stockpile #1										
Lab #0775	08-16-07	3.0	43.4	12.8	40.8	85.7	0.7	59.3	407	8
Lab #0948	09-14-07	3.6	46.6	10.1	39.7	85.2	0.8	57.4	391	9
Lab #1113	10-11-07	3.4	45.8	11.3	39.5	85.1	0.8	57.7	393	9
Lab #1331	11-12-07	7.6	44.0	12.2	36.2	86.2	0.7	54.5	376	8
SCHILDBERG CONST. CO.-SHAMBAUGH Q, GREENFIELD, IA										
Stockpile #1										
Lab #0699	08-02-07	5.6	47.7	10.9	35.8	80.3	0.9	54.3	349	10
Lab #0945	09-10-07	2.1	47.7	12.9	37.3	81.4	1.2	57.0	371	14
Lab #1112	10-08-07	3.8	47.5	10.7	38.0	82.7	0.8	56.3	372	9
Lab #1310	11-06-07	4.4	49.7	11.9	34.0	85.1	1.2	53.6	365	13
SCHILDBERG CONST. CO.-WATTERSON, GREENFIELD, MO										
SHAWNEE STONE - CYPRESS PLANT, CYPRESS, IL										
SHAWNEE STONE - JONESBORO PLANT, ANNA, IL										
Stockpile #1										
Lab #0710	08-01-07	4.1	42.7	12.3	40.9	98.1	0.2	59.0	463	2
Lab #1063	09-25-07	0.0	35.3	13.8	50.9	98.5	0.3	68.0	536	4
Lab #1321	10-31-07	0.0	38.3	14.2	47.5	98.6	0.3	65.6	517	4
Stockpile #4										
Lab #0709	08-01-07	0.0	20.5	18.9	60.6	97.5	0.3	77.1	601	5
SHELBY CO. STONE, SHELBY, MO										
Stockpile #1										
Lab #0721	08-06-07	5.2	42.4	8.8	43.6	87.3	1.5	59.5	415	18
Lab #1146	10-10-07	4.7	41.6	10.4	43.3	87.7	1.4	59.9	421	17
Lab #1289	11-07-07	6.1	43.2	10.3	40.4	89.2	1.5	57.4	409	17
Lab #1376	11-27-07	4.7	43.9	9.6	41.8	87.6	1.5	58.5	410	18
Stockpile #2										
Lab #1147	10-10-07	1.6	48.0	12.2	38.2	90.2	1.6	57.5	415	18
Lab #1290	11-07-07	1.8	46.5	14.4	37.3	91.6	1.7	57.6	422	20
Lab #1377	11-27-07	1.9	49.1	11.6	37.4	91.4	1.3	56.6	414	15
SIEGEL GRAVEL & EXCAVATING, VERSAILLES, MO										
Stockpile #1										
Lab #0919	09-10-07	3.6	51.0	8.1	37.3	90.2	11.1	54.9	396	122
Lab #1104	10-09-07	8.5	41.5	8.1	41.9	88.0	10.6	57.1	402	121
Lab #1178	10-19-07	9.9	48.9	7.5	33.7	92.1	11.4	50.4	372	115
Lab #1351	11-16-07	8.6	43.5	9.6	38.3	91.4	11.0	54.9	402	121
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Stockpile #1										
Lab #0749	08-07-07	2.6	19.7	28.6	49.1	99.0	11.9	71.2	564	169
Stockpile #2										
Lab #0750	08-07-07	8.5	22.1	21.6	47.8	103.0	12.0	66.3	546	159

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO (Continued)										
Stockpile #3										
Lab #0916	09-10-07	4.1	8.5	16.1	71.3	100.2	12.1	83.1	666	201
Lab #1183	10-16-07	7.8	22.0	25.1	45.1	99.6	12.1	65.7	523	159
Lab #1354	11-19-07	5.2	13.9	29.4	51.5	97.7	11.9	72.6	568	173
Lab #1484	12-10-07	6.5	18.6	25.1	49.8	98.4	11.8	69.5	547	164
SKYLINE MATERIALS, DECORAH, IA										
Stockpile #1										
Lab #1088	10-01-07	6.5	42.1	9.7	41.7	91.1	1.0	58.0	423	12
Lab #1132	10-10-07	6.8	42.0	9.6	41.6	91.0	0.9	57.9	421	10
Lab #1294	11-07-07	4.6	43.4	10.3	41.7	90.6	1.1	58.7	426	13
Lab #1378	11-27-07	7.7	42.3	8.4	41.6	89.4	1.9	57.2	409	22
SOUTH CENTRAL COOP, CAINSVILLE, MO										
Stockpile #1										
Lab #1091	10-02-07	0.0	0.2	0.3	99.5	92.6	0.1	99.7	739	2
Lab #1252	10-30-07	0.0	0.6	0.3	99.1	92.3	0.2	99.4	734	4
Lab #1336	11-13-07	0.0	0.6	0.4	99.0	92.8	0.2	99.4	738	4
SMASAL AGGREGATE, LINCOLN, MO										
Stockpile #1										
Lab #0793	08-13-07	2.1	48.0	11.8	38.1	92.0	0.1	57.2	421	1
Lab #0976	09-11-07	1.7	47.7	11.3	39.3	95.4	0.2	58.0	443	2
Lab #1109	10-11-07	0.2	48.0	14.1	37.7	93.2	0.1	58.2	434	1
Lab #1369	11-20-07	0.2	42.2	16.5	41.1	92.1	0.1	61.6	454	1
SPRINGFIELD UNDERGROUND, INC., SPRINGFIELD, MO										
Stockpile #2										
Lab #1014	09-20-07	2.9	12.0	8.5	76.6	95.9	0.2	84.7	650	3
Lab #1482	12-13-07	2.2	19.7	11.2	66.9	96.2	0.4	78.5	604	6
S-S-S INC, LOUISIANA, MO										
Stockpile #1										
Lab #0809	08-10-07	5.1	45.8	11.7	37.4	94.7	0.2	55.9	423	2
Lab #1020	09-18-07	5.4	46.1	10.4	38.1	94.4	0.3	55.9	422	3
Lab #1222	10-19-07	4.4	47.7	10.9	37.0	96.0	0.4	55.5	426	4
Lab #1359	11-19-07	5.1	46.6	11.5	36.8	96.3	0.3	55.4	426	3
STRACK STONE, CAPE GIRARDEAU, MO										
Stockpile #2										
Lab #1323	11-08-07	0.6	47.4	13.3	38.7	83.0	8.7	58.5	389	102
T & M STONE LLC, FAIR PLAY, MO										
Stockpile #2										
Lab #0853	08-27-07	1.3	43.3	14.8	40.6	95.8	0.2	60.3	462	2
Lab #1058	09-27-07	2.1	40.6	12.8	44.5	73.0	0.0	62.3	364	0
Lab #1248	10-31-07	4.3	44.5	13.1	38.1	95.8	0.1	57.1	437	1
Lab #1388	11-29-07	2.5	41.8	15.6	40.1	91.3	0.2	59.9	438	2
TABLE ROCK ASPHALT CONST CO INC, BRANSON, MO										
Stockpile #1										
Lab #1075	10-02-07	5.8	50.7	8.5	35.0	87.6	10.4	52.8	370	110
Stockpile #2										
Lab #1076	10-02-07	0.1	0.7	2.7	96.5	85.1	2.4	98.3	669	47
TABLE ROCK ASPHALT CONST CO INC-KIM, BRANSON, MO										
TAYLOR QUARRIES, LOCKWOOD, MO										
Stockpile #1										
Lab #0871	08-29-07	0.0	45.8	15.2	39.0	94.0	0.7	59.6	448	8
Lab #0872	08-30-07	0.0	45.2	14.6	40.2	94.2	0.7	60.3	454	8
Lab #0873	08-31-07	0.0	39.3	15.9	44.8	95.8	0.7	64.2	492	9
TOWER ROCK STONE CO, SCOTT CITY, MO										
Stockpile #2										
Lab #0707	08-01-07	2.4	36.9	15.5	45.2	97.2	0.8	63.7	496	10
Lab #0867	08-27-07	3.0	39.6	14.9	42.5	97.9	1.1	61.3	480	13
Lab #1062	09-25-07	2.0	38.3	15.7	44.0	97.0	0.8	63.0	489	10
TOWER ROCK STONE CO, STE GENEVIEVE, MO										
Stockpile #1										
Lab #1004	09-17-07	0.8	46.4	17.0	35.8	96.4	1.1	57.6	444	13
Lab #1267	10-31-07	0.1	33.1	19.9	46.9	97.4	1.4	67.1	523	19
Stockpile #2										
Lab #1003	09-17-07	0.2	35.3	12.2	52.3	95.7	7.0	68.4	524	96
Lab #1268	10-31-07	1.1	37.2	13.2	48.5	96.6	7.7	65.7	508	101
Stockpile #3										
Lab #1005	09-17-07	2.2	35.2	21.5	41.1	98.2	0.3	62.8	493	4

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
TOWER ROCK STONE CO, STE GENEVIEVE, MO (Continued)										
Stockpile #3										
Lab #1269	10-31-07	1.0	37.0	18.2	43.8	92.8	0.3	64.0	475	4
TRAGER LIMESTONE, CHILLICOTHE, MO										
Stockpile #1										
Lab #0814	08-15-07	0.0	55.4	10.8	33.8	68.1	1.4	54.1	295	15
Lab #0898	09-05-07	0.2	47.4	12.5	39.9	68.9	1.4	59.3	327	17
Lab #1046	09-26-07	0.5	51.6	10.8	37.1	69.1	1.4	56.5	312	16
Lab #1170	10-16-07	0.6	44.1	10.0	45.3	74.0	1.2	62.3	369	15
Lab #1260	11-01-07	0.0	53.9	11.1	35.0	75.7	0.8	55.1	334	9
TRAGER LIMESTONE LLC, HAMILTON, MO										
TWIN LAKES QUARRIES INC, MOUNTAIN HOME, AR										
UEHLIN QUARRY, AMAZONIA, MO										
Stockpile #1										
Lab #0779	08-16-07	0.1	45.6	12.0	42.3	74.3	2.0	60.9	362	24
Lab #1030	09-24-07	0.2	46.9	10.7	42.2	73.6	2.0	60.3	355	24
Lab #1093	10-01-07	0.2	44.2	11.8	43.8	74.1	1.8	61.9	367	22
Lab #1335	11-14-07	0.2	44.8	12.8	42.2	73.7	2.0	61.1	360	24
UNITED SUPPLIERS, ELDORA, IA										
VAN BUREN STONE c/o GIBBS TRUCKING, POPLAR BLUFF, MO										
WADE AG PRODUCTS-MAIN OFC, LACYGNE, KS										
Stockpile #2										
Lab #0754	08-06-07	4.4	46.5	10.3	38.8	92.5	0.4	56.6	419	5
Lab #1053	09-26-07	4.0	45.8	9.8	40.4	90.7	0.6	57.7	419	7
Lab #1216	10-23-07	3.9	45.4	9.6	41.1	91.1	0.4	58.2	424	5
Lab #1426	11-26-07	5.1	44.6	10.2	40.1	86.3	0.4	57.4	396	5
TRAGER LIMESTONE, GALLATIN, MO										
Stockpile #1										
Lab #0813	08-15-07	0.3	42.7	11.5	45.5	78.2	0.9	63.1	395	11
Lab #1064	09-10-07	0.0	53.2	9.8	37.0	81.0	0.4	56.2	364	4
Lab #0988	09-18-07	0.1	53.7	8.7	37.5	81.7	0.7	56.1	367	8
Lab #0996	09-21-07	0.4	49.2	10.3	40.1	80.3	0.8	58.6	376	9
Lab #1262	11-01-07	0.1	53.3	10.1	36.5	82.2	0.7	55.9	367	8
Stockpile #2										
Lab #0987	09-18-07	0.0	54.3	10.1	35.6	79.2	0.6	55.2	350	7
Lab #0995	09-21-07	0.0	54.8	10.3	34.9	81.1	0.6	54.8	355	7
Lab #1045	09-26-07	0.1	56.1	10.6	33.2	80.7	0.8	53.6	346	9
Lab #1261	11-01-07	0.1	48.2	11.9	39.8	73.3	1.2	59.0	346	14
WADE AG PRODUCTS Q DREXEL, LACYGNE, KS										
Stockpile #1										
Lab #0756	08-06-07	6.6	53.9	10.2	29.3	86.1	1.4	48.9	337	14
Lab #1051	09-26-07	7.7	55.8	9.8	26.7	86.3	1.5	46.5	321	14
Lab #1214	10-23-07	8.6	56.3	8.7	26.4	85.8	1.4	45.7	314	13
Lab #1424	11-26-07	7.3	54.4	9.5	28.8	85.4	1.4	48.1	329	13
WASHINGTON COUNTY AGGREGATES, INC., POTOSI, MO										
Stockpile #1										
Lab #1042	09-26-07	0.1	35.7	17.0	47.2	93.3	10.9	66.3	495	145
Lab #1264	10-30-07	0.1	30.8	17.6	51.5	97.1	11.9	69.8	542	166
FRED WEBER INC.-AUBURN QUARRY, ELSBERRY, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Stockpile #1										
Lab #0848	08-27-07	0.1	3.5	6.1	90.3	87.4	1.9	94.8	663	36
Lab #1070	09-28-07	0.2	5.4	5.6	88.8	89.6	1.8	93.5	670	34
Lab #1444	12-06-07	0.1	8.5	7.4	84.0	89.4	1.7	90.6	648	31
Stockpile #2										
Lab #1327	11-13-07	18.5*	46.3	8.5	26.7	88.5	0.6	43.4	0	0
Lab #1443	12-06-07	26.1*	44.2	7.0	22.7	89.3	0.7	38.0	0	0
FRED WEBER, INC - FESTUS STONE, FESTUS, MO										
Stockpile #1										
Lab #1002	08-17-07	0.8	9.6	13.6	76.0	93.5	2.1	86.6	647	36
FRED WEBER, INC - FOLEY QUARRY, FOLEY, MO										
FRED WEBER, INC.-NEW MELLE STONE, NEW MELLE, MO										
Stockpile #1										
Lab #0893	08-30-07	8.0	13.9	8.3	69.8	95.4	2.7	78.3	597	42
Lab #1123	10-09-07	6.2	13.5	11.4	68.9	95.2	2.6	79.1	603	41

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2007

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
FRED WEBER INC-NORTH QUARRY, MARYLAND HEIGHTS, MO										
Stockpile #1										
Lab #1121	10-08-07	0.0	12.9	17.8	69.3	93.5	2.7	83.2	622	45
Lab #1402	11-26-07	0.0	9.7	17.6	72.7	95.2	2.6	85.7	653	45
FRED WEBER, INC. - SOUTH STONE, ST. LOUIS, MO										
Stockpile #2										
Lab #1122	10-08-07	0.4	9.6	13.7	76.3	93.5	2.2	86.9	650	38
Lab #1403	11-26-07	0.0	10.8	10.6	78.6	94.4	5.4	87.7	662	95
WILKERSON BROS QUARRY, PARIS, MO										
Stockpile #1										
Lab #0716	08-02-07	3.3	44.9	14.2	37.6	90.7	2.3	57.3	416	26
Lab #0929	09-06-07	2.4	46.1	12.4	39.1	93.0	4.3	58.1	432	50
Lab #1137	10-12-07	2.7	49.4	11.6	36.3	91.9	4.0	55.6	409	44
Lab #1287	11-06-07	3.1	46.6	13.1	37.2	92.4	2.5	56.7	419	28
Stockpile #2										
Lab #0717	08-02-07	3.6	50.5	12.8	33.1	84.4	1.1	53.4	361	12
Lab #0930	09-06-07	4.9	47.7	12.7	34.7	85.7	1.3	54.2	372	14
Lab #1138	10-12-07	4.4	47.8	13.2	34.6	85.4	1.3	54.5	372	14
Lab #1288	11-06-07	4.6	46.5	12.5	36.4	89.5	2.1	55.5	398	23
WILLARD ASPHALT - #18 SLEEPER, LEBANON, MO										
Stockpile #1										
Lab #0825	08-20-07	0.1	1.2	1.2	97.5	84.2	10.2	98.5	664	201
Lab #1242	10-29-07	0.4	0.7	1.4	97.5	85.8	10.0	98.5	676	197
WILLARD ASPHALT PAVING,- #19, LEBANON, MO										
Stockpile #1										
Lab #0803	08-16-07	0.0	0.1	0.4	99.5	81.7	9.8	99.8	652	196
Lab #1125	10-10-07	0.0	0.4	0.3	99.3	87.7	10.5	99.6	699	209
Lab #1317	11-07-07	0.0	0.3	0.4	99.3	85.1	10.1	99.6	678	201
WILLARD QUARRY-SLEEPER, LEBANON, MO										
Stockpile #1										
Lab #0823	08-20-07	0.1	5.5	30.3	64.1	95.1	11.0	83.7	636	184
Lab #1240	10-29-07	1.1	4.5	23.8	70.6	91.3	10.9	86.0	628	187
Stockpile #2										
Lab #0824	08-20-07	5.3	44.7	11.5	38.5	85.0	10.1	56.6	385	114
Lab #1241	10-29-07	4.7	42.6	13.3	39.4	83.6	9.9	58.0	388	115
WILLARD QUARRIES- ST ROBERT, ST. ROBERT, MO										
Stockpile #1										
Lab #0804	08-16-07	8.5	43.1	15.0	33.4	93.6	11.2	53.2	398	119
Lab #1126	10-10-07	8.9	41.7	14.7	34.7	92.9	11.1	53.9	401	120
Lab #1318	11-07-07	5.9	43.1	17.1	33.9	95.8	11.2	54.9	421	123
WILLIAMSVILLE STONE CO, POPLAR BLUFF, MO										
Stockpile #2										
Lab #0751	08-07-07	0.7	36.9	15.0	47.4	97.4	11.4	65.6	511	150
Lab #0917	09-10-07	0.3	34.3	17.2	48.2	97.4	11.6	67.1	523	156
Lab #1182	10-16-07	0.8	37.2	15.7	46.3	97.3	11.8	65.0	506	153
Lab #1355	10-19-07	0.2	36.7	15.7	47.4	98.5	11.6	66.0	520	153
Lab #1468	12-10-07	0.6	43.6	15.3	40.5	96.9	11.5	60.6	470	139

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TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JULY 1 THROUGH DECEMBER 31, 2007

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
AG COOP SERVICES INC, OTTERVILLE, MO										
FISCHER QUARRIES LLC, HUGHESVILLE, MO										
Lab #1201	10-24-07	1.7	53.9	10.3	34.1	88.1	5.4	53.8	379	58
Lab #1349	11-16-07	5.0	50.6	11.7	32.7	94.2	2.3	52.4	395	24
AG DISTRIBUTORS, CATRON, MO										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #1410	11-26-07	3.8	19.9	22.3	54.0	99.8	12.1	72.4	578	175
AGRI SERVICES OF LEBANON, LEBANON, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0822	08-20-07	3.4	14.1	9.4	73.1	96.7	0.3	82.3	636	5
BARTLETT & CO, HIGGINSVILLE, MO										
FISCHER QUARRIES LLC, HUGHESVILLE, MO										
Lab #0840	08-22-07	9.9	47.7	8.1	34.3	84.9	6.4	51.1	347	65
BOLIVAR FARMERS EXCHANGE, BOLIVAR, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #1055	09-27-07	0.2	9.5	15.4	74.9	96.6	0.3	86.5	669	5
Lab #1245	10-31-07	0.2	10.9	13.7	75.2	96.9	0.3	86.1	668	5
Lab #1422	11-29-07	0.1	10.5	15.4	74.0	96.8	0.3	85.9	665	5
BOOTHEEL LIMESTONE - SENATH, KENNETT, MO										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #0752	08-13-07	5.3	11.3	21.9	61.5	102.3	11.8	77.5	634	183
CAMERON COOP ELEVATOR ASSN, CAMERON, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #1094	10-04-07	0.0	0.6	1.1	98.3	90.1	0.5	99.1	714	10
Lab #1094	10-04-07	0.0	0.6	1.1	98.3	90.1	0.5	99.1	714	10
CENTRAL MISSOURI AGRISERVICE LLC, SLATER, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0771	08-07-07	0.6	9.6	7.9	81.9	89.3	1.1	89.0	636	20
CHULA FARMERS COOP, CHULA, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #1255	10-31-07	0.0	0.6	1.8	97.6	86.9	0.6	98.8	687	12
DISSEN ENTERPRISES, NEW HAVEN, MO										
FRED WEBER INC-NORTH QUARRY, MARYLAND HEIGHTS, MO										
Lab #0859	08-23-07	0.1	11.6	17.6	70.7	89.2	1.3	84.2	601	22
Lab #1084	10-02-07	0.0	11.0	17.1	71.9	90.9	1.3	84.9	617	22
FARMERS COOPERATIVE ASSN #301, SULLIVAN, MO										
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO										
Lab #1191	10-22-07	0.6	1.0	3.8	94.6	98.8	6.4	97.1	768	124
FARMERS PRODUCERS EXCHANGE-CONWAY, LEBANON, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0760	08-07-07	0.1	10.0	12.7	77.2	95.6	1.0	87.3	668	17
Lab #0980	09-13-07	0.2	13.4	16.6	69.8	95.3	0.6	83.1	634	10
FOWLER ELEVATOR INC, NEWTOWN, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0986	09-17-07	1.2	13.1	4.8	80.9	89.8	1.0	87.1	625	17
Lab #1149	10-09-07	1.4	16.9	5.8	75.9	87.7	1.2	83.6	587	20
Lab #1393	11-29-07	2.4	14.3	7.2	76.1	88.5	1.2	84.0	595	20
FOWLER ELEVATOR, UNIONVILLE, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0993	09-20-07	0.1	4.9	5.8	89.2	88.8	0.8	93.9	667	15
Lab #1392	11-26-07	0.3	6.0	6.2	87.5	89.5	0.9	92.7	664	17
GAGE'S FERTILIZER & GRAIN INC, BETHANY, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #0965	09-11-07	0.1	2.7	4.6	92.6	87.5	0.6	96.0	672	12
GIBSON LIME CO-DEXTER, DEXTER, MO										
SHAWNEE STONE - JONESBORO PLANT, ANNA, IL										
Lab #0714	08-06-07	6.0	50.3	10.6	33.1	98.1	0.3	52.0	408	3
Lab #1412	11-27-07	2.9	39.0	12.3	45.8	98.5	0.5	62.9	496	6
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #0715	08-06-07	10.4*	23.0	18.5	48.1	101.6	11.9	65.0	0	0
Lab #0818	08-21-07	5.6	15.8	20.1	58.5	100.5	11.8	74.5	599	176
Lab #0870	08-30-07	5.1	16.6	22.0	56.3	101.2	12.1	73.7	596	178
Lab #0918	09-05-07	4.7	15.9	22.3	57.1	100.9	12.2	74.5	601	182
Lab #0962	09-17-07	4.6	15.8	21.2	58.4	101.6	12.1	75.1	610	182
Lab #1411	11-27-07	9.3	17.0	23.3	50.4	100.2	12.3	68.6	550	169

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TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

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Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
GIBSON LIME CO-DEXTER, DEXTER, MO (Continued)										
TOWER ROCK STONE CO, STE GENEVIEVE, MO										
Lab #0713	08-06-07	4.3	39.3	15.0	41.4	96.7	1.0	60.2	466	12
Lab #0964	09-17-07	3.2	39.5	14.3	43.0	97.0	1.2	61.5	477	15
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #0819	08-21-07	4.3	19.9	20.9	54.9	102.3	12.3	72.4	593	178
Lab #0963	09-17-07	4.1	18.6	24.4	52.9	102.1	12.3	72.2	590	178
HAWK FERTILIZER, BOLIVAR, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #1056	09-27-07	0.3	11.8	14.6	73.3	95.2	0.4	85.0	647	7
Lab #1246	10-31-07	0.7	15.0	16.2	68.1	95.1	0.3	81.6	621	5
Lab #1386	11-29-07	0.2	21.4	16.4	62.0	97.1	0.3	77.2	600	5
HEIMSOOTH AG SERVICE, CORDER, MO										
LAFARGE QUARRY, SEDALIA, MO										
Lab #0839	08-22-07	3.3	51.7	9.1	35.9	87.2	3.5	54.3	379	38
Lab #1096	10-04-07	4.5	49.3	8.1	38.1	85.1	3.9	55.3	376	43
Lab #1280	11-07-07	4.3	53.2	9.0	33.5	89.1	2.3	52.2	372	24
LOUIS HERZTING JR, FREEBURG, MO										
SPRINGFIELD UNDERGROUND, INC., SPRINGFIELD, MO										
Lab #0806	08-17-07	0.0	9.0	14.3	76.7	96.3	0.2	87.5	674	4
Lab #1040	09-24-07	0.1	11.8	15.9	72.2	96.6	0.4	84.7	654	7
HOFFMAN & REED INC, TRENTON, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #0897	09-04-07	0.2	0.7	2.8	96.3	87.8	0.6	98.2	689	12
Lab #1043	09-25-07	0.0	0.4	2.1	97.5	88.0	0.6	98.9	696	12
KELLY LIME & ROCK, LA PLATA, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0705	08-01-07	6.2	38.4	10.3	45.1	89.5	2.3	60.9	436	28
SKYLINE MATERIALS, DECORAH, IA										
Lab #0970	09-12-07	9.7	44.3	8.4	37.6	91.2	0.9	53.7	392	10
KEN MO AG CENTER, KENNETT, MO										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #0753	08-13-07	6.2	11.1	22.2	60.5	99.1	11.9	76.6	607	182
KEN MO AG CENTER, KENNETT, MO										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #1353	11-14-07	5.9	20.5	23.7	49.9	99.3	12.1	69.2	550	168
KINDER PLANT FOOD, LICKING, MO										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #1394	11-27-07	4.4	18.4	25.5	51.7	98.6	11.9	71.6	565	170
LINNEMAN LIME & FERT, SALISBURY, MO										
NORRIS AGGREGATE PRODUCTS CO - EAST, HUNTSVILLE, MO										
Lab #1073	10-03-07	4.3	45.7	13.1	36.9	90.2	1.6	56.2	405	18
Lab #1275	11-05-07	0.9	45.3	15.9	37.9	89.9	0.9	58.8	423	11
LOGANBILL FERTILIZER, INC., VERSAILLES, MO										
LANGE STEGMANN FERTILZIER, ST LOUIS, MO										
Lab #0876	08-30-07	0.1	4.4	4.5	91.0	89.3	2.0	94.8	677	38
Lab #1105	10-08-07	0.3	5.2	6.7	87.8	89.0	1.9	93.1	663	35
LOHMAN PRODUCERS EXCHANGE, LOHMAN, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0741	08-09-07	0.2	8.3	7.0	84.5	86.7	1.6	90.8	630	29
Lab #1083	10-01-07	0.1	8.0	7.1	84.8	88.4	1.5	91.1	644	27
MFA AGRI SERVICE, KIRKSVILLE, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0972	09-13-07	0.5	11.0	7.9	80.6	89.7	1.6	88.1	632	28
Lab #1120	10-10-07	0.6	7.9	6.8	84.7	89.9	1.5	90.8	653	27
Lab #1208	10-24-07	4.0	16.6	6.4	73.0	86.9	1.2	81.0	563	19
MFA EXCHANGE, CHAMOIS, MO										
MUEKNS BROS. QUARRY, LOOSE CREEK, MO										
Lab #1184	10-15-07	0.5	45.1	9.7	44.7	83.0	10.1	61.8	410	125
Lab #1456	12-06-07	1.0	48.8	10.0	40.2	84.3	9.7	58.4	394	113
MUEKNS BROS. QUARRY, LOOSE CREEK, MO										
Lab #0857	08-22-07	0.2	43.3	9.1	47.4	87.7	10.6	63.7	447	135
MFA AGRI SERVICES, ADVANCE, MO										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #0960	09-11-07	3.8	18.2	25.5	52.5	102.2	12.1	72.4	592	175
TOWER ROCK STONE CO, SCOTT CITY, MO										
Lab #0961	09-11-07	3.0	37.5	15.3	44.2	96.8	1.2	62.8	486	15

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TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JULY 1 THROUGH DECEMBER 31, 2007

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
MFA AGRI SERVICE, BETHANY, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #0966	09-11-07	0.3	3.2	3.4	93.1	85.1	0.6	95.9	653	12
Lab #1250	10-29-07	0.0	1.2	3.1	95.7	85.7	0.6	97.9	671	12
MFA AGRI SERVICE, BROOKFIELD, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #1206	10-22-07	0.0	0.9	3.0	96.1	89.3	0.5	98.1	701	10
Lab #1438	12-07-07	0.3	1.1	2.4	96.2	89.5	0.6	97.9	701	12
MFA AGRI SERVICE, BROWNING, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #1166	10-18-07	0.9	7.6	6.8	84.7	88.2	1.7	90.7	640	31
MFA AGRI SERVICE, COLE CAMP, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0975	09-11-07	0.5	5.0	7.2	87.3	88.9	1.2	92.9	660	22
MFA AGRI SERVICE, ELSBERRY, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #1276	10-31-07	24.2*	42.7	7.2	25.9	90.1	1.1	40.9	0	0
MFA AGRI SERVICE, FULTON, MO										
MFA INC, COLUMBIA, MO										
Lab #0915	09-07-07	0.8	9.1	6.7	83.4	90.1	1.7	89.7	647	30
MFA AGRI SERVICE, HIGGINSVILLE, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #1097	10-04-07	0.0	0.3	1.5	98.2	88.9	0.5	99.2	705	10
MFA AGRI SERVICE, LANCASTER, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #1068	09-13-07	0.5	12.7	7.3	79.5	90.4	1.0	87.1	630	17
Lab #1151	10-10-07	0.4	10.5	7.5	81.6	90.4	1.1	88.7	642	20
FARMERS PRODUCE EXCHANGE, LEBANON, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0821	08-20-07	0.2	11.5	13.5	74.8	96.7	0.9	85.8	664	15
Lab #1239	10-29-07	0.0	11.7	15.1	73.2	94.9	0.6	85.2	647	10
MFA AGRI SERVICE, MACON, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #1066	09-12-07	0.1	7.3	7.7	84.9	87.7	1.4	91.3	641	26
MFA AGRI SERVICE, MILAN, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #1150	10-09-07	0.6	20.0	5.8	73.6	87.9	1.3	82.1	577	21
Lab #1337	11-15-07	0.5	17.6	5.7	76.2	89.2	1.3	84.0	600	22
Lab #1469	12-13-07	1.1	18.3	6.4	74.2	89.0	1.4	82.6	588	23
MFA AGRI SERVICE, NEW CAMBRIA, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #1065	09-12-07	0.3	10.7	7.6	81.4	90.4	1.6	88.6	641	28
MFA AGRI SERVICE, ODESSA, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #0981	09-14-07	0.1	1.3	2.1	96.5	88.9	0.6	98.1	698	12
MFA AGRI SERVICE, OWENSVILLE, MO										
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO										
Lab #0894	08-31-07	0.4	1.6	4.6	93.4	98.0	6.2	96.6	757	120
Lab #1041	09-25-07	0.7	1.8	4.3	93.2	98.0	6.0	96.2	754	115
Lab #1374	11-20-07	0.0	1.1	3.9	95.0	98.1	6.8	97.6	766	133
MFA AGRI SERVICE, ST CLAIR, MO										
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO										
Lab #0798	08-14-07	0.3	1.9	4.5	93.3	97.7	5.8	96.5	754	112
Lab #1407	11-29-07	0.3	1.3	3.2	95.2	99.3	7.1	97.4	774	138
MFA EXCHANGE, SALEM, MO										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #1085	10-04-07	4.4	19.5	26.2	49.9	101.4	12.0	70.5	572	169
Lab #1193	10-24-07	3.8	49.7	7.0	39.5	102.3	12.0	56.1	459	135
MFA AGRI SERVICE, SALISBURY, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0772	08-13-07	0.2	11.8	8.5	79.5	89.5	1.0	87.6	627	18
MFA AGRI SERVICES, SHERIDAN, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #1309	11-05-07	0.1	0.5	2.2	97.2	89.4	0.7	98.6	706	14
MFA AGRI SERVICE, TRENTON, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0811	08-13-07	1.6	14.5	9.1	74.8	85.1	1.6	83.9	571	27

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JULY 1 THROUGH DECEMBER 31, 2007

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
MFA AGRI SERVICE, TRENTON, MO (Continued)										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0896	09-04-07	2.5	12.4	7.7	77.4	85.7	1.5	85.1	584	26
Lab #1152	10-11-07	2.5	15.0	6.9	75.6	86.2	1.5	83.5	576	25
MFA AGRI SERVICE, UNIONVILLE, MO										
MFA INC, COLUMBIA, MO										
Lab #0994	09-20-07	0.0	1.1	1.9	97.0	85.8	0.5	98.4	676	10
MRM AG SERVICE INC, EAST PRAIRIE, MO										
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #0850	08-22-07	3.3	19.2	21.3	56.2	101.8	11.7	73.8	601	173
Lab #1466	12-03-07	8.6	20.0	27.8	43.6	100.3	12.0	65.3	524	157
SHAWNEE STONE - JONESBORO PLANT, ANNA, IL										
Lab #0820	08-22-07	4.6	42.9	10.9	41.6	98.1	0.5	58.9	462	6
Lab #1225	10-22-07	3.7	38.2	12.0	46.1	98.2	0.3	62.9	494	4
WILLIAMSVILLE STONE CO, POPLAR BLUFF, MO										
Lab #1226	10-22-07	0.7	34.9	16.5	47.9	97.6	11.4	66.5	519	152
LEO O'LAUGHLIN, MACON, MO										
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Lab #0766	08-07-07	1.5	40.6	12.3	45.6	91.7	0.3	63.1	463	4
Lab #1067	09-12-07	1.0	40.9	8.2	49.9	92.8	0.3	65.0	483	4
Lab #1089	10-01-07	2.9	37.4	11.8	47.9	92.5	0.4	64.3	476	5
Lab #1207	10-22-07	3.2	38.2	10.0	48.6	90.4	0.3	64.2	464	4
Lab #1436	12-05-07	2.6	41.3	11.1	45.0	87.4	0.3	62.0	433	4
LEO O'LAUGHLIN, SHELBYNA, MO										
Lab #0767	08-09-07	6.7	44.3	9.6	39.4	86.5	1.5	56.2	389	17
Lab #0971	09-12-07	1.8	40.4	11.4	46.4	89.2	0.5	63.3	452	6
Lab #1090	10-01-07	1.8	42.2	12.3	43.7	90.5	0.4	61.6	446	5
Lab #1229	10-22-07	1.9	39.7	14.7	43.7	89.4	0.5	62.4	447	6
Lab #1437	12-05-07	2.3	38.5	10.6	48.6	90.5	0.3	64.6	468	4
LEO O'LAUGHLIN INC, MARCELINE, MO										
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Lab #0765	08-08-07	1.2	38.9	14.2	45.7	92.1	0.3	63.9	471	4
Lab #0968	09-07-07	0.6	41.3	12.6	45.5	91.7	0.5	63.4	465	6
Lab #1148	10-03-07	1.2	39.3	14.8	44.7	88.9	0.4	63.4	451	5
Lab #1230	10-22-07	1.5	39.1	14.0	45.4	91.1	0.4	63.6	463	5
Lab #1338	11-16-07	1.5	40.0	13.2	45.3	90.4	0.3	63.2	457	4
LEO O'LAUGHLIN, SHELBYNA, MO										
Lab #0764	08-08-07	6.8	43.3	9.0	40.9	87.7	1.4	57.1	401	16
RAY CARROLL CO-CARROLLTON, RICHMOND, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #1029	09-25-07	0.0	1.5	2.4	96.1	88.5	0.6	97.9	693	12
Lab #1154	10-17-07	0.3	0.7	1.3	97.7	88.9	0.6	98.7	702	12
Lab #1483	12-14-07	0.1	0.8	2.2	96.9	88.7	0.7	98.4	698	14
RICHLAND PLANT FOODS, RICHLAND, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0802	08-16-07	0.0	6.7	12.9	80.4	95.9	0.2	89.8	689	4
Lab #1319	11-07-07	0.1	9.4	14.1	76.4	97.1	0.5	87.2	677	9
SKYLINE MATERIALS, LA PLATA, MO										
SKYLINE MATERIALS, DECORAH, IA										
Lab #1307	11-07-07	4.7	42.1	10.0	43.2	90.8	1.3	59.7	434	16
Lab #1435	12-05-07	5.8	42.6	8.4	43.2	90.6	1.3	58.9	427	15
STOCKMAN FEED & FERTILIZER, JEFFERSON CITY, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0739	08-09-07	0.4	9.2	6.9	83.5	89.4	1.0	89.9	643	18
WEST CENTRAL AGRISERVICE, LLC, HARRISONVILLE, MO										
MK MINERALS INC., MANHATTAN, KS										
Lab #0902	09-06-07	0.2	1.9	4.1	93.8	85.5	0.6	96.7	662	12
Lab #1312	11-08-07	0.3	3.2	4.7	91.8	84.4	0.6	95.4	644	11
ZWEERINK-AGRI SERVICES, CROCKER, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0801	08-16-07	0.0	9.2	13.9	76.9	96.7	0.2	87.5	677	4
Lab #1124	10-10-07	0.1	11.3	14.6	74.0	96.3	0.4	85.6	659	7
Lab #1320	11-07-07	0.0	10.4	14.4	75.2	97.0	0.5	86.4	671	9

The Influence of Calcitic and Dolomitic Lime and Phosphorus on Species Composition in Tall Fescue Pastures

R.J. Miles and D. G. Blevins
E.J. Hamilton, W.E. McClain, and M. Remley, Graduate Students

INTRODUCTION

This project was initiated during the summer of 2005 with the selection of field plots at the Southwest Research Center (SWC) at Mt. Vernon. An established tall fescue stand with a diverse plant community was selected for this study. The objective of this project was to ascertain the effect of lime and phosphorus (P) on species composition in tall fescue pastures. A large percentage of the tall fescue acreage in Missouri is on acid soils with low to very low available P. The soil resource in the plot area is primarily the Gerald silt loam (fine, mixed, active, mesic Aeric Fragiaqualf) with some inclusions of the Creldon silt loam (fine, mixed, mesic, Oxyaquic Fragiudalf). Soil test samples from the plot area had the following initial values:

<u>Soil Parameter</u>	<u>Value</u>
CEC (meq/100g)	10.1
Neutralizable Acidity (meq/100g)	5.2
pHs	4.6
Bray P-1 (lbs/A)	6
Potassium (lbs/A)	1515
Calcium (lbs/A)	258
Magnesium (lbs/A)	203

Initial botanical composition was assessed in June 2005 for sectors of the plot area for species composition. Plots with 10 ft by 25 ft dimensions were delineated with 5 ft borders. Liming treatments used were calcitic and dolomitic aglime with each material having 0X, 0.5X, 1X, and 2X the amount recommended by the Missouri Soil Testing Laboratory Woodruff Buffer method. Additionally, P treatments for each aglime treatment were 0 and 50 lbs P/A. Maintenance K was added as called for by soil test value and 100 lbs N/A was also applied. Each treatment was replicated 6 times.

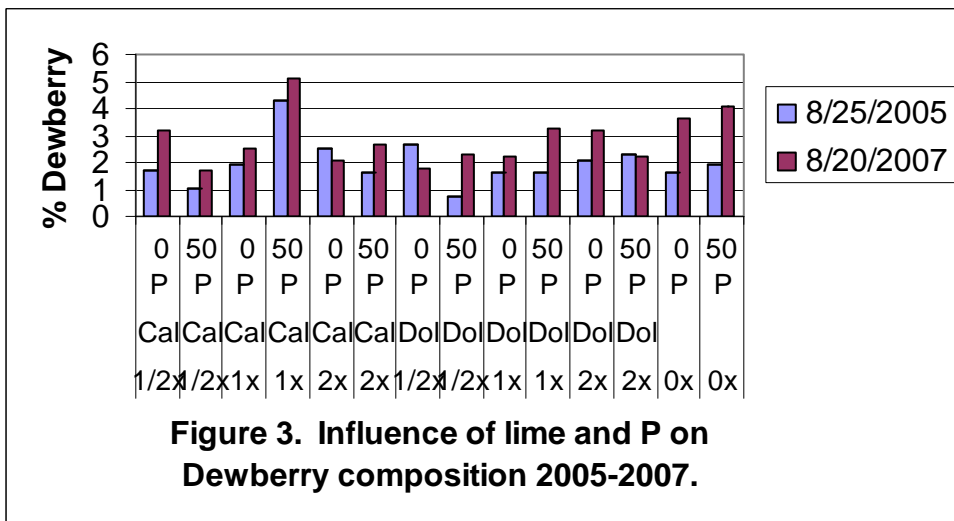
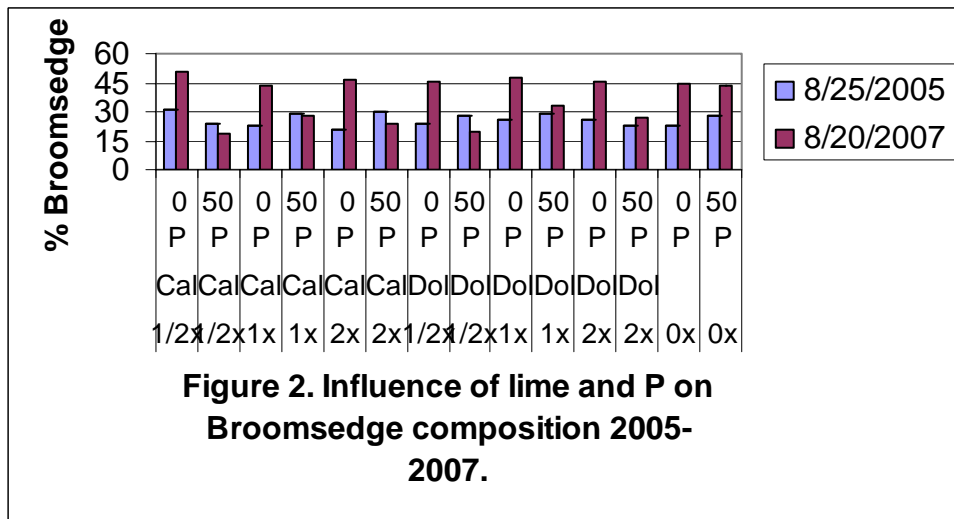
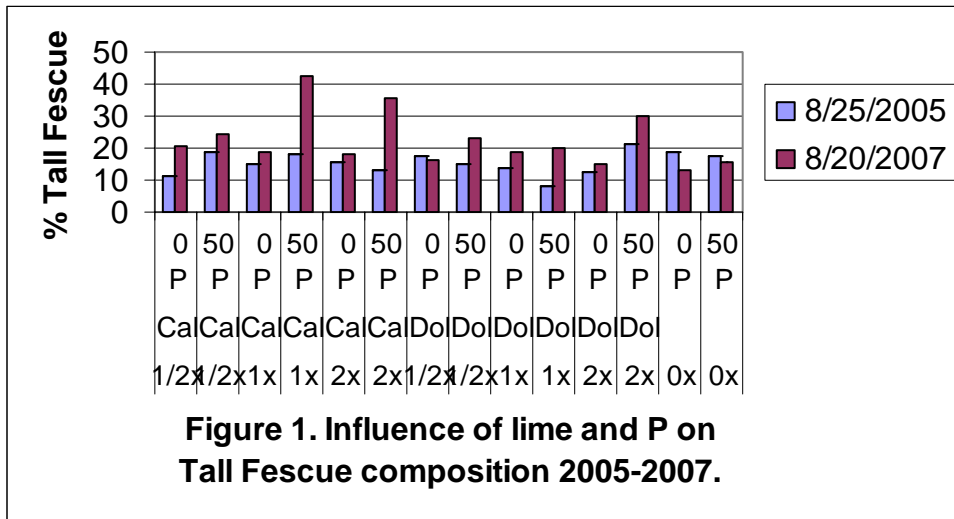
The calcitic limestone used possessed an ENM value of 396 and the dolomitic limestone exhibited an ENM of 452. The limestone recommendation (1X) for the limestone was 3.67 T/A and 3.22 T/A for the calcitic and dolomitic materials, respectively. Initial vegetative composition assessments were made in the summer of 2005. Vegetative composition assessments and forage yields after the application of lime and fertilizer inputs were taken in May 2006, August 2006, May 2007, and August 2007. Soil samples from each individual plots were taken in September 2007 for similar soil testing analysis as the initial samples.

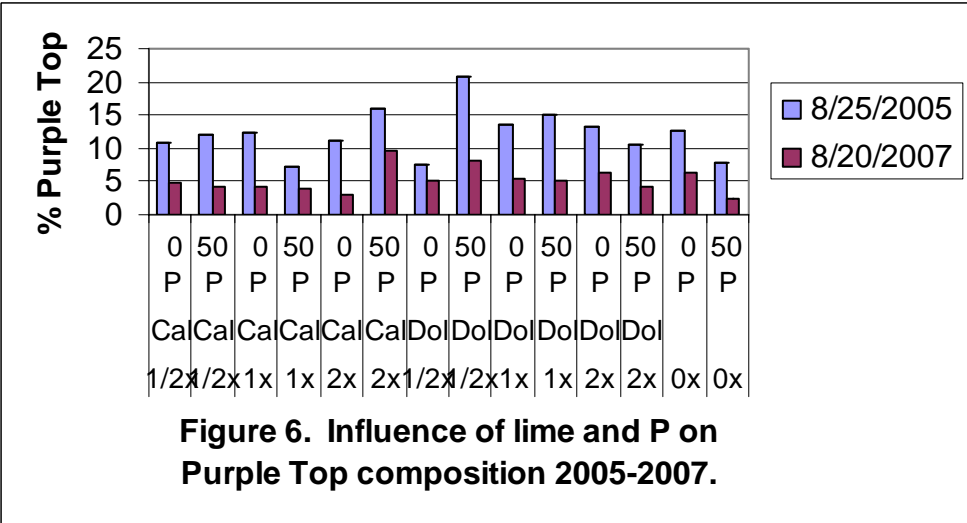
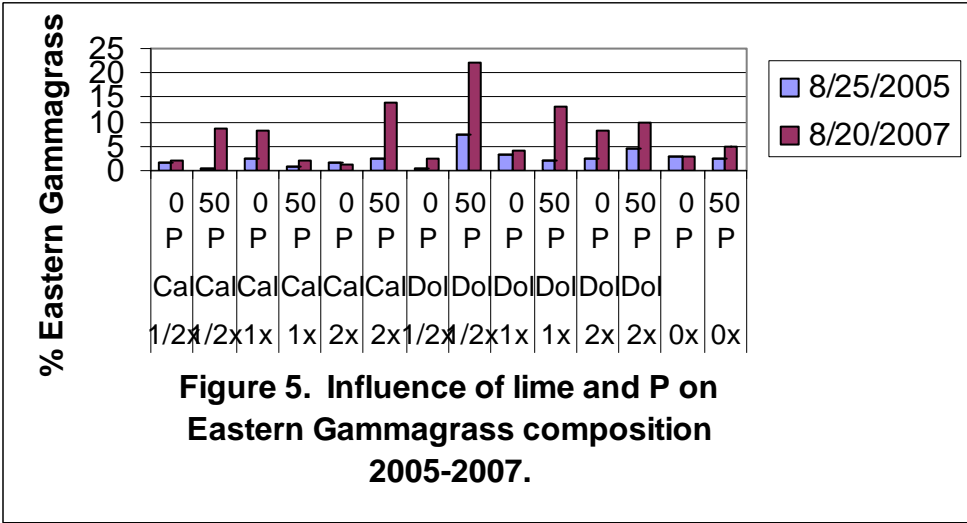
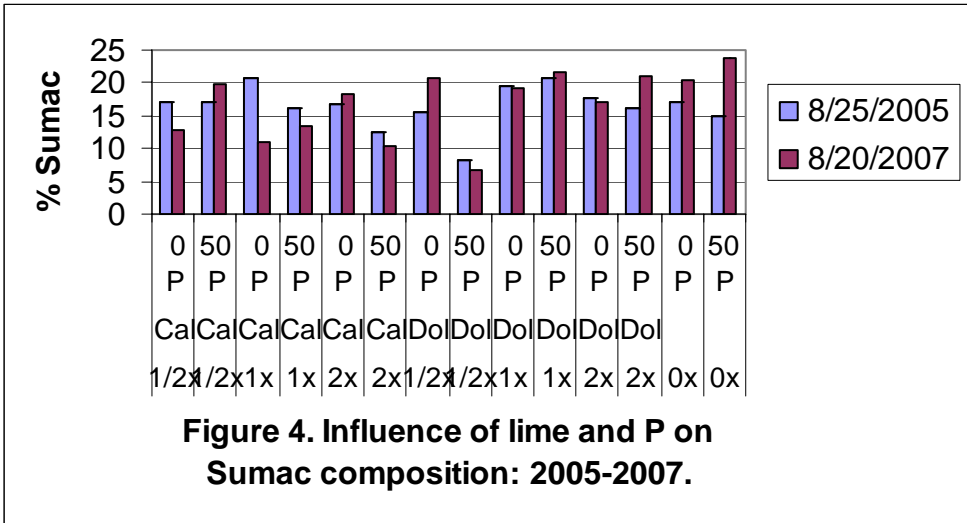
ACCOMPLISHMENTS

The data was assessed from three viewpoints: species composition by lime and fertilizer inputs over the 2 years after initiation; yield by lime and fertilizer inputs; and ending soil test values by lime and fertilizer treatments.

Species composition by lime and fertilizer treatments

The plant species identified in the pasture at initiation were: annual lespedeza, Aster, Blackeyed susan, Broomsedge, Buckbrush, Buckhorn plantain, Bull thistle, Canada goldenrod, Carex, Cheat grass, Common ragweed, Common yarrow, Crabgrass, Crown Vetch, Daisy fleabane, Dalis grass, Deptford pink, Dewberry, Eastern Gammagrass, Eastern red cedar, Elm, Germander, Giant foxtail, Goatsbeard, Grape, Hairy Hawkweed, Hop clover, Horse nettle, Indian grass, Ironweed, Juncus, Kentucky bluegrass, Little bluestem, Milkwort, Mustard, Nightshade, Orchardgrass, Persimon, Poison ivy, Prairie dogbane, Purple top, Quen Anne's lace, Res sorrel, Red top, Rough-fruited cinquefoil, Sassafras, Sececia lespedeza, Smoothbrome, Sourgrass, St. John's Wort, Suma, Tall fescue, Tall green milkweed, tall thistle, Three seeded mercury, Tick, trefoil, Virginia creeper, Western panicgrass, Wild Cherry, Wild lettuce, Wild Onion, Wild Rose, Wild senna, Witch grass, Yellow foxtail. The summary of major species occurrence is summarized in Figures 1 through 6.

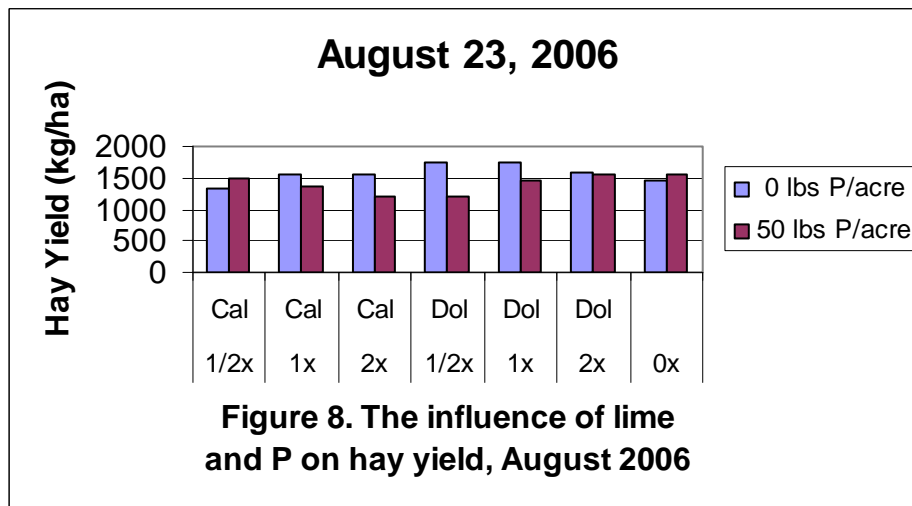
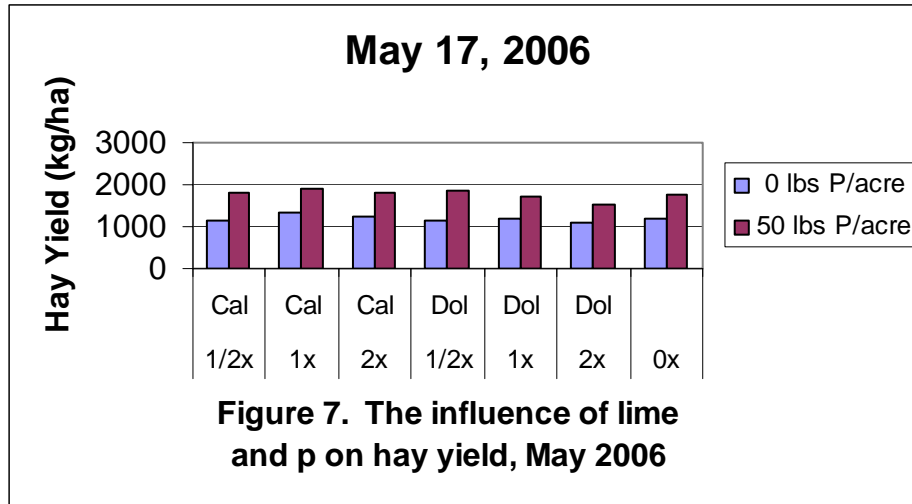


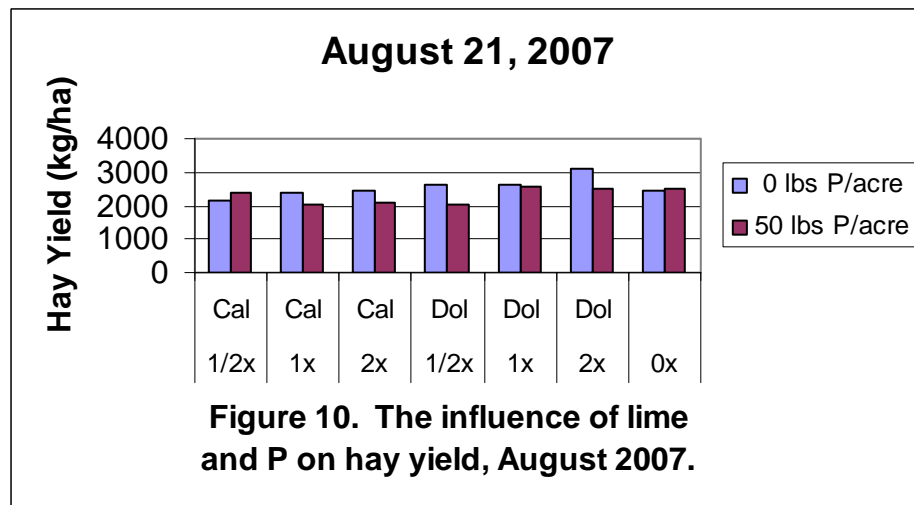
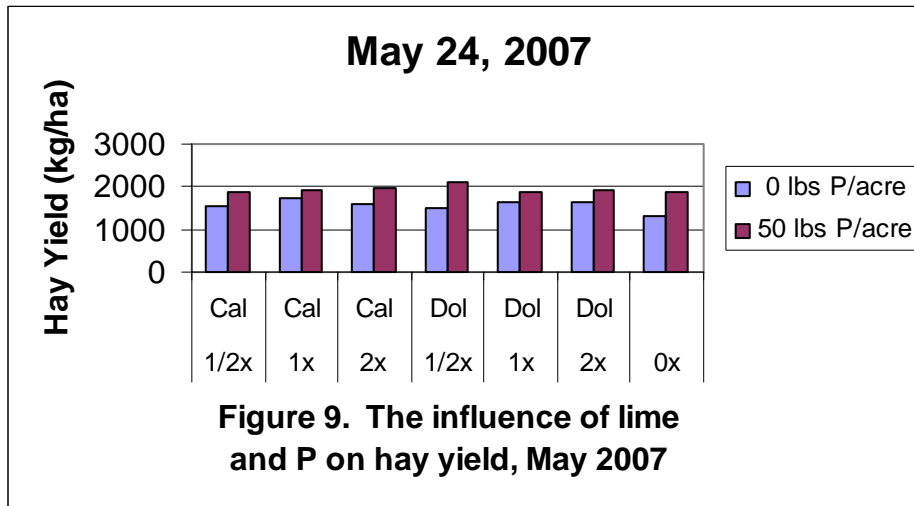


Over the two year period (2005-2007) after liming, it was observed that tall fescue increased in coverage with P treatments when limed (Figure 1). Broomsedge decreased with P applications and lime. The use of calcitic limestone tended to lessen broomsedge percentages more than dolomitic although plant occurrence numbers increased with time after treatment application (Figure 2). Dewberry coverage tended to decrease with calcitic and dolomitic limestone (Figure 3). However, P had little influence of Dewberry. Few consistent trends were observed with sumac relative to liming or P treatments (Figure 4). Calcitic limestone tended to decrease Eastern gamma grass occurrence more than dolomitic limestone (Figure 5). The occurrence of purple top is much less with both calcitic and dolomitic limestone over time regardless of P treatment (Figure 6).

Hay yield with limestone and P treatment

The influences of limestone and P treatments on hay yield over the years after application are presented in Figures 7 through 10.

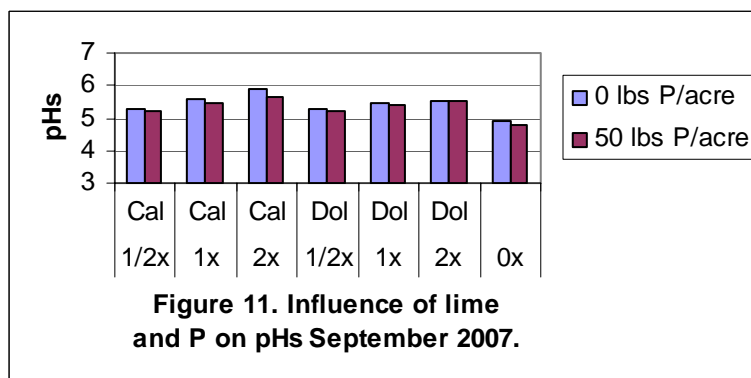


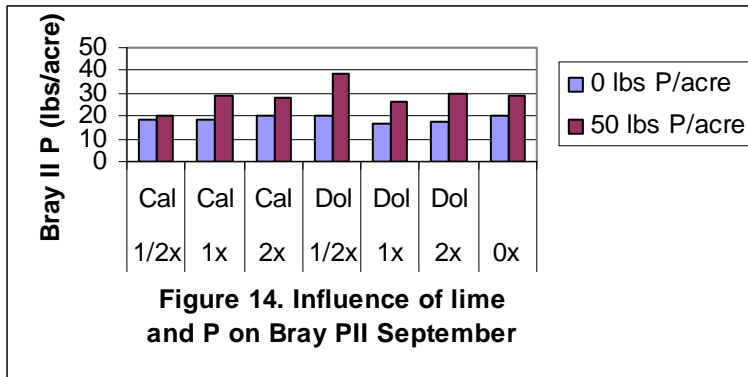
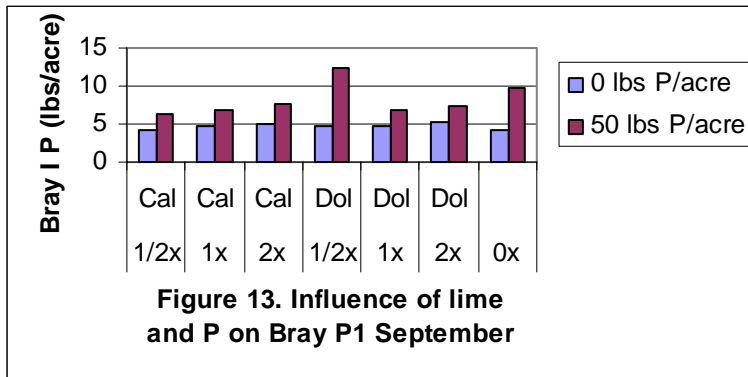
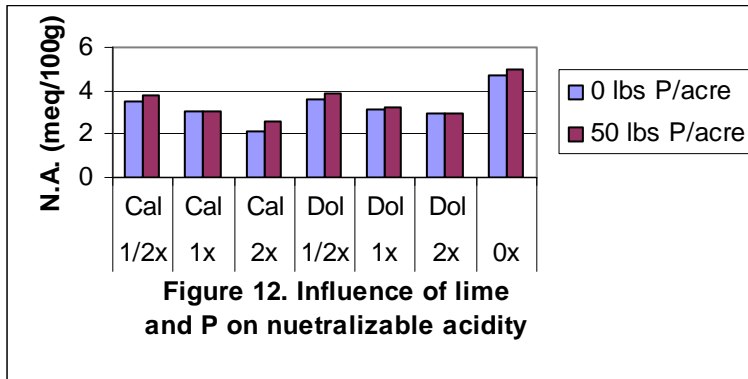


In both years the May yields were greater for P applications than the corresponding no P treatment at the comparable limestone quantity and type. This occurrence is best explained by the plant's need for a large portion of its annual P to be in the early part of the growth season. Whereas, both August yields were slightly greater for the no P than the P treatment and dolomitic limestone provided a slighter greater yield at comparable quantities than the calcitic limestone.

Soil test values with lime and P treatments

The 2 years influences of the lime and P treatments on specific soil test values are presented in Figures 11-14.





The various additions of limestone increased the salt pH from the initial 4.6 value to values in the 5 range. The 2X application of calcitic limestone provided the largest salt pH value (Figure 11). However, the values after liming were not near the desired salt pH value range one would target for top management tall fescue production. The salt pH values for tall fescue were much smaller than desired. Perhaps soil test values and liming recommendations for tall fescue production needs to be further researched to provide a greater long-term sustainable production level. All incremental increases of both limestones decreased neutralizable acidity with the calcitic material providing a lesser amount of acidity at the comparable dolomitic material (Figure 12). The addition of 50 lbs of P did increase Bray PI P levels within each liming material and within each incremental increase over the 0 P. However, Bray PI levels were greater for the dolomitic material than the calcitic material (Figure 13). These levels are still too low for consistent tall fescue production levels. Additionally, additions of P increased Bray PII levels with a slightly greater response for dolomitic limestone.

SUMMARY AND CONCLUSIONS

The addition of limestone and P to acid soils which are used for tall fescue production provided the following major observations over a 2 year period after application of the materials

1. With increased limestone and P treatments, the species composition changes gradually. Tall fescue tends to increase with P inputs when it was limed. Additional P drove broomsedge numbers down but only in the limed plots. Dewberry decreased with calcitic and dolomitic limestone. It is apparent that good liming and P management can be an effective weed control management tool. Control of woody species such as Sumac was limited at best. Perhaps grazing practices could assist with partial control of invader species. However, use of limestone and P may be a consistent but slow, evolutionary process in the control of invader species and management for desirable species.
2. Early season yields were greater than later season yields with P treatment. It is apparent that P is critical in the early part of the growing season. In the late-summer, P is not a factor with yield increases while dolomite has a greater positive influence on yield than calcitic limestone.
3. Target salt pH values are not being attained even with twice the Woodruff Buffer soil test recommendation for both calcitic and dolomitic limestone. This consistent finding along with previously funded Fertilizer/Ag Lime research we have preformed catalyzes the consideration that more research in the area of soil test calibration with limestone recommendations is needed to provide a greater long-term sustainability for tall fescue production.
4. Application of 50 lbs P does little to increase the Bray PI values for high yield forage production with very low initial P levels.

Pelletized Lime for Short-Term Treatment of Soil Acidity

Gene Stevens and David Dunn
University of Missouri-Delta Research Center

Correct soil pH is the cornerstone of a successful crop nutrient management program. Annual applications of nitrogen fertilizers on crops slowly produce acid conditions in fields. If low pH is not corrected by agricultural lime applications, soil acidity will reduce nutrient availability to plants (especially P), produce toxic levels of aluminum and manganese, and diminish the weed control activity of some herbicides.

In recent years, agricultural fertilizer dealers have reported 2 to 3 fold increases in sales of pelletized lime. Pelletized lime is finely ground limestone, which is made into small pellets for broadcasting with conventional fertilizer equipment. Because pelletized lime is relatively expensive per ton, it is applied at lower rates (<300 lbs/acre) as compared to recommended rates of agricultural lime. A "1:10 ratio" rule of thumb has been promoted for comparing the short-term neutralizing effectiveness of pelletized lime to agricultural lime. (Example: if a soil test recommends the ENM equivalent of 2000 lbs of agricultural lime per acre apply 200 lbs of pelletized lime/acre). Most farmers realize that pelletized lime is not a long-term "fix", but expect it to reduce soil acidity to tolerable levels for one year. Typically, farmers apply this material on fields that a landlord is unwilling to share part of the cost of applying agricultural lime or will not provide a lease agreement for more than one year.

A study was conducted in 2005-2005 in Southeast Missouri to evaluate the general philosophy of using finely ground lime to provide a short-term, "quick fix" of soil acidity and compare soybean and corn yield response of pelletized lime and agricultural lime.

Materials and Methods

Soybeans. Elemental sulfur was uniformly broadcast at a rate of 2000 lb/acre to acidify a Reelfoot sandy loam soil at the Delta Research Center at Portageville in February 2005. Soil samples were collected before soybean planting in 2005 and analyzed at the MU Delta Center Soil Test Laboratory. Soil test reports showed that 1209 ENM/acre was recommended to neutralize the acidity. Ag lime (514 ENM/ton) and pelletized lime (720 ENM/ton) were applied to 10' X 40' plots in a randomized complete block design with four replications. Lime materials were incorporated with tillage. Soybeans were planted with 30-inch row spacings in early May in 2005-2007.

Treatments included agricultural and pelletized lime applied at $\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, and 100% of the recommended ENM per acre. Also, pelletized lime treatments were included with very low rates (4, 8, 12, and 16 lb/acre) dribbled over the seed furrow behind the planter press wheel and applied directly in the seed furrow with soybean seeds. Soil samples from each plot were collected in March 2006. Results showed that the sulfur probably continued to react and acidify the field throughout the 2005 growing season. Additional agricultural and pelletized lime was applied to the same plots in April 2006 using the same pattern of rates relative to MU recommendations. Liming materials were applied in 2006 with 1842 ENM/acre for the 100% recommended rates and proportionally lower amounts for $\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ of the recommended amount of lime from agricultural and pelletized materials. The center two rows of each four row plot were mechanically harvested with a plot combine and the grain weights adjusted to 13% moisture.

Corn A corn experiment was conducted in 2006 and 2007 using fields with silt loam soils in a corn/soybean rotation. Plots in this experiment were not artificially acidified with sulfur. Soil pH_{salt} values were 4.9 in 2006 and 4.6 in 2007. Four rates of ag lime (1000, 2000, 3000, and 4000 lb/acre) and four rates of pelletized lime (100, 200, 300, and 400 lb/acre) were applied and incorporated before corn planting. Each pelletized lime rate was 1/10 of a corresponding agricultural lime treatment. Corn was planted on 30-inch row spacing and mechanically harvested with a plot combine. Grain weights were adjusted to 15% moisture.

Results and Discussion

Applying less than 25% of recommended rates of lime on acid soil in soybean plots did not significantly increase yield compared to soybean in untreated plots. Agricultural lime and pelletized lime produced the same increase in soil pH and soybean yield response when equivalent ENMs per acre were applied of each material. Soybean yield increases in 2006 and 2007 showed a positive linear response to increasing lime for rates up to 100% of MU soil test recommendations (Figures 1 and 2). Dribble and in-furrow placement of pelletized lime at very low rates did not significantly increase soybean yield. Averaged across years, the untreated check soybean plots produced 30 bushels per acre compared to infurrow and dribble pelletized lime plots which both averaged 31 bushels per acre. Applying 1/10 the recommended rate of pelletized lime on corn was not as effective in neutralizing soil acidity as a full rate of agricultural lime. Averaged across years and rates, corn receiving 1000 to 4000 lb/acre of agricultural lime averaged 164 bu/acre compared to 100 to 400 lb/acre rates of pelletized lime which produced 143 bu/acre.

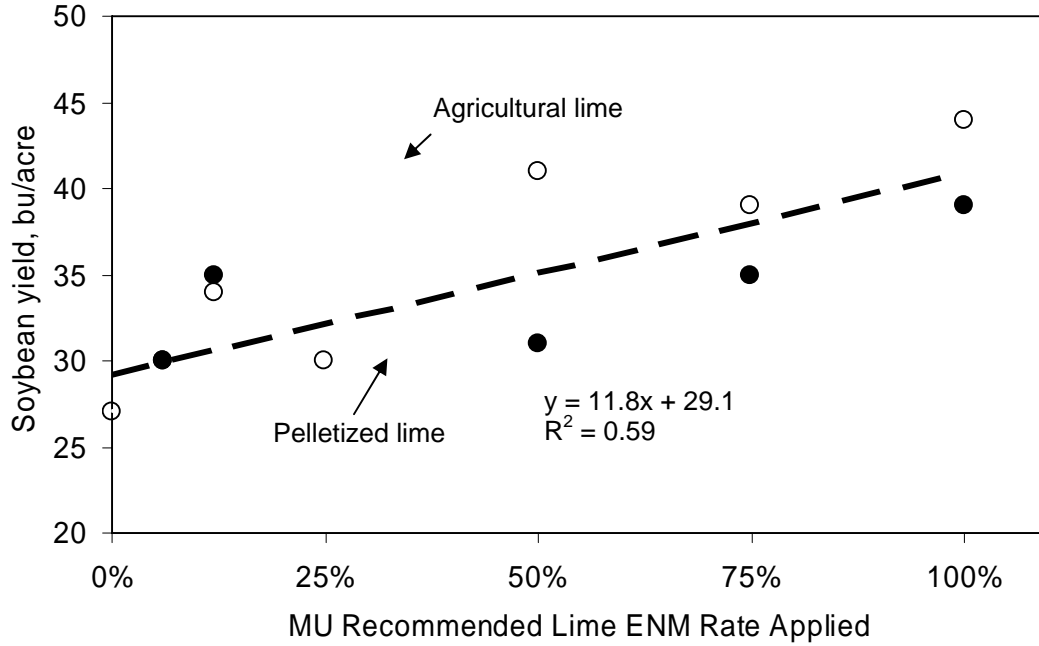


Figure 1. Soybean yields in 2006 as affected by agricultural lime (514 ENM/ton) and pelletized lime (720 ENM/ton) treatments with rates based MU recommendation of 1209 ENM/acre in 2005 and 1842 ENM/acre in 2006.

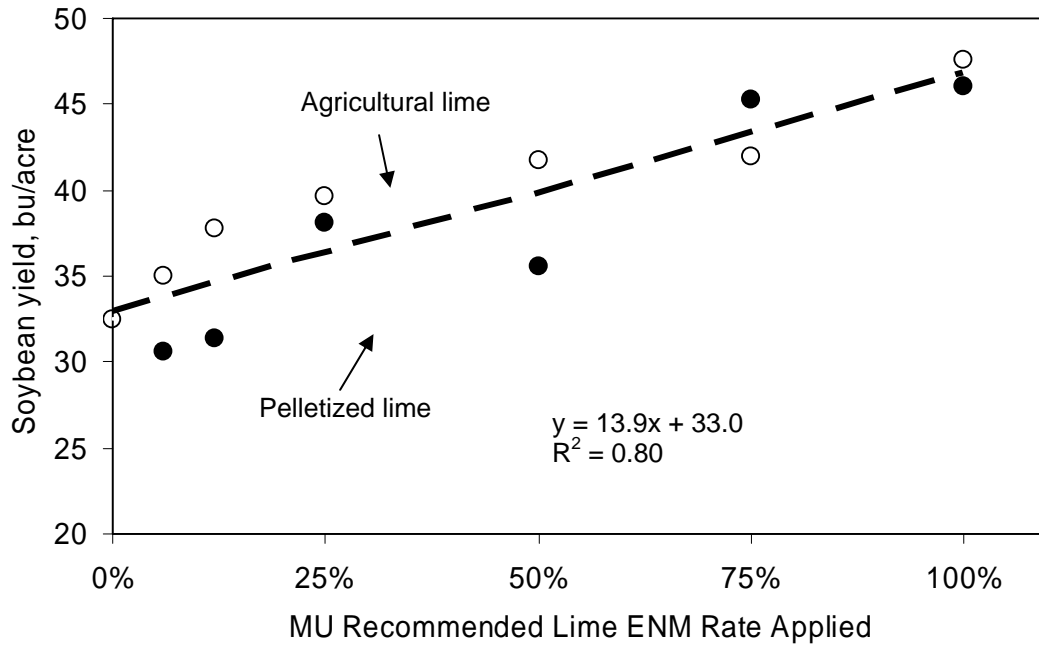


Figure 2. Soybean yields in 2007 as affected by agricultural lime (514 ENM/ton) and pelletized lime (720 ENM/ton) treatments with rates based a MU soil test recommendation of 1209 ENM/acre in 2005 and 1842 ENM/acre in 2006.

Table1. Corn yield response to agricultural and pelletized lime on fields using the 10:1 rule of thumb for pelletized lime rates of application relative to agricultural lime.

Lime	Material	2006	2007	Average
	per acre	-----bu/acre-----		
Check	0	98	193	146
Ag lime	1000 lb	126	192	159
	2000 lb	123	210	167
	3000 lb	145	195	170
	4000 lb	121	201	161
Pell lime	100 lb	100	190	145
	200 lb	96	191	143
	300 lb	98	191	144
	400 lb	103	182	142

College of Agriculture, Food and Natural Resources
Fertilizer/Ag Lime Program
FY07 Income & Disbursements

	Ag Lime Fees	Fertilizer Fees	Other	Combined
CARRYFORWARD FY06			546,705.93	546,705.93
REVENUE				
Tonnage Fees	96,838.15	1,014,762.45		1,111,600.60
Audits		11,898.88		11,898.88
Permit Fees	21,200.00	107,000.00		128,200.00
Deficiency Payments		14,556.61		14,556.61
Late Payment Fees	2,778.75	8,619.85		11,398.60
Total Revenue Available	120,816.90	1,156,837.79		1,277,654.69
Total Funds Available	120,816.90	1,156,837.79	546,705.93	<u>1,824,360.62</u>
DISBURSEMENTS				
Inspection Services				517,046.29
Analytical Services				355,620.46
Experiment Station Chem Lab Support ¹				56,131.17
Special Equipment Reserve ²				35,000.00
Annual Research Report				5,713.61
Research Proposals Funded				
FY04 Continuing Proposals				85,304.00
FY05 Continuing Proposals				119,137.00
FY06 New Proposals				139,697.00
Total Disbursements				<u>1,313,649.53</u>
CONTINGENCY				
Contingency Funds Held in Reserve				68,000.00
Unencumbered Funds ³				442,711.09
Total Contingency				510,711.09
Total Disbursements/Contingency				<u>1,824,360.62</u>

Footnotes:

¹ S&W support to Experiment Station Chem Lab administrative personnel

² Per June 30, 1998 Fertilizer/Ag Lime Committee meeting minutes, a \$50,000 (later changed to \$35,000) equipment reserve has been made available to T. Mawhinney for equipment upgrades in Analytical Services.

³ Held in reserve to fund second and third year of multi-year research proposals.

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