

**Missouri
Agricultural Liming
Materials Report**

January 1 to June 30, 2011

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 January 1 through June 30, 2011. There were 468 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-eight deficient samples are reported, twenty-five for excessive coarseness and three for low CCE. There were seven "stop sale" order's issued against producer stockpiles: all for excessive coarseness, two of the stop sales issued for excessive coarseness have been released at this time.

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	1,085,571	1,567,544
2008	373,490	727,861	1,101,351
2009	681,600	583,025	1,264,626
2010	446,530	1,321,861	1,768,392
2011	400,000*	1,200,000*	1,600,000*

* PRELIMINARY ESTIMATE

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2011

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 #0314	05-17-11	0.2	54.7	8.8	36.3	87.0	9.7	55.3	385	107
ADRIAN QUARRY LLC, ADRIAN, MO										
ALBY QUARRY, CARLINVILLE, IL										
ALLEN QUARRIES INC, LOCKWOOD, MO										
Stockpile #1										
Lab #0260	05-05-11	0.7	41.8	15.5	42.0	95.8	0.2	61.8	473	2
Lab #0351	05-24-11	0.8	46.2	14.8	38.2	97.5	0.0	58.6	457	1
AMERICAN ROCK, LLC, HOLLISTER, MO										
Stockpile #1										
Lab #0167	04-05-11	0.0	36.5	19.2	44.3	90.2	0.1	64.9	469	1
Lab #0287	05-10-11	0.2	44.7	16.7	38.4	94.1	0.1	59.6	449	1
APAC-MISSOURI, INC - BAGNELL 13, COLUMBIA, MO										
Stockpile #1										
Lab #0300	05-09-11	6.6	41.4	13.5	38.5	92.7	11.0	57.0	422	125
Lab #0355	05-26-11	5.6	41.6	13.8	39.0	93.6	11.0	57.7	432	126
APAC-MISSOURI, INC. - BOONVILLE, COLUMBIA, MO										
Stockpile #1										
Lab #0030	02-28-11	4.9	51.0	13.3	30.8	92.9	0.2	51.5	383	2
Lab #0086	03-18-11	4.3	52.9	12.9	29.9	92.1	0.1	50.9	375	1
Lab #0232	04-28-11	4.7	50.3	12.6	32.4	93.3	0.4	52.5	392	4
Lab #0392	06-07-11	3.9	47.9	13.5	34.7	93.4	0.1	54.8	409	1
APAC - BRICKEY'S STONE, BLOOMSDALE, MO										
Stockpile #1										
Lab #0099	03-24-11	22.1*	33.5	8.7	35.7	97.1	0.8	49.3	0	0
Lab #0159	04-06-11	23.3*	32.4	9.0	35.3	96.7	0.7	48.8	0	0
Stockpile #2										
Lab #0100	03-24-11	21.7*	34.5	9.9	33.9	98.1	0.7	48.5	0	0
Lab #0149	04-06-11	24.2*	34.8	9.3	31.7	97.6	0.7	46.0	0	0
Stockpile #3										
Lab #0101	03-24-11	0.4	36.9	13.6	49.1	97.7	0.6	66.5	520	8
Lab #0160	04-06-11	0.6	37.2	13.9	48.3	97.5	0.6	65.9	514	8
APAC-MISSOURI GALLATIN, GALLATIN, MO										
APAC-MISSOURI, INC. - LINN CREEK, LINN CREEK, MO										
Stockpile #2										
Lab #0299	05-09-11	3.5	46.0	13.3	37.2	88.2	10.5	56.7	400	119
Lab #0354	05-26-11	1.1	42.0	15.7	41.2	93.7	11.0	61.1	458	136
APAC-CENTRAL, INC. - BUSIEK, FAYETTEVILLE, AR										
APAC-MISSOURI, INC. - MARSHALL, MARSHALL, MO										
Stockpile #5										
Lab #0006	02-18-11	2.7	47.4	10.9	39.0	74.2	3.4	57.4	341	39
Lab #0089	03-23-11	0.9	52.8	10.8	35.5	82.5	3.1	55.2	364	34
Lab #0192	04-19-11	2.6	57.4	9.4	30.6	88.7	3.5	50.6	359	35
Lab #0336	05-24-11	0.9	47.3	12.4	39.4	81.0	2.0	58.7	380	23
APAC-MISSOURI, INC.-MARSHALL (WEST), COLUMBIA, MO										
APAC-MISSOURI, INC - PETTIS QUARRY, COLUMBIA, MO										
APAC-CENTRAL INC. - ROARK CREEK, FAYETTEVILLE, AR										
ARKANSAS LIME COMPANY, INC., BATESVILLE, AR										
MINERALS PROCESSING, MAUMEE, OH										
ASH GROVES AGGREGATES-DEVER, BUTLER, MO										
Stockpile #1										
Lab #0116	03-23-11	0.3	39.3	15.7	44.7	90.5	0.2	63.9	463	3
Lab #0252	05-02-11	1.1	38.1	16.1	44.7	89.0	0.2	63.9	455	3
Lab #0380	06-02-11	0.0	31.8	17.3	50.9	91.0	0.2	69.2	504	3
ASH GROVE AGGREGATES-FAIR GROVE, BUTLER, MO										
ASH GROVE AGGREGATES-FAIR PLAY, BUTLER, MO										
Stockpile #1										
Lab #0012	02-16-11	1.5	42.5	14.7	41.3	94.8	0.1	60.7	461	1
Lab #0229	04-27-11	1.5	43.5	14.5	40.5	95.2	0.1	60.1	458	1
Lab #0373	05-31-11	1.3	42.0	14.2	42.5	94.7	0.4	61.5	466	5
ASH GROVE AGGREGATES INC-S&K, BUTLER, MO										
Stockpile #1										
Lab #0069	03-09-11	1.4	53.5	12.3	32.8	81.0	0.4	53.6	347	4
Lab #0172	04-05-11	2.3	57.2	11.1	29.4	81.8	0.4	50.4	330	4
Lab #0396	06-08-11	0.9	58.4	11.9	28.8	85.4	0.4	50.5	345	4
ASH GROVE AGGREGATES INC-LACYGNE, BUTLER, MO										
ASH GROVE AGGREGATES INC-MARSHFIELD, BUTLER, MO										
Stockpile #3										
Lab #0049	03-03-11	0.7	41.5	12.3	45.5	95.4	11.9	63.3	483	151
Lab #0315	05-19-11	0.4	40.4	13.5	45.7	95.1	10.9	63.9	486	139

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JANUARY 1 THROUGH JUNE 30, 2011

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-MONTEVALLO, BUTLER, MO										
Stockpile #1										
Lab #0055	02-28-11	0.4	41.5	14.3	43.8	86.9	0.4	62.8	436	5
Lab #0135	03-30-11	0.8	38.8	14.3	46.1	80.8	0.3	64.4	416	4
Lab #0253	05-02-11	0.6	38.4	15.7	45.3	82.8	0.3	64.3	426	4
Lab #0379	06-02-11	1.1	44.7	15.7	38.5	86.4	0.3	59.1	408	4
ASH GROVE AGGREGATES INC-OSCEOLA, BUTLER, MO										
Stockpile #1										
Lab #0081	03-17-11	2.6	48.6	12.3	36.5	91.6	2.3	56.0	411	26
Lab #0223	04-25-11	2.7	50.0	12.4	34.9	91.2	2.0	54.8	400	22
ASH GROVE AGGREGATES, INC-SEAGRAVES, BUTLER, MO										
ASH GROVE AGGREGATES INC.-STOCKTON, BUTLER, MO										
Stockpile #2										
Lab #0054	02-28-11	4.0	47.7	12.0	36.3	93.0	0.3	55.4	412	3
Lab #0134	03-30-11	4.4	49.5	12.6	33.5	90.5	0.2	53.4	387	2
ASH GROVE AGGREGATES INC-WHEATLAND, BUTLER, MO										
Stockpile #1										
Lab #0020	02-23-11	0.0	41.2	14.6	44.2	94.2	0.1	63.3	477	1
Lab #0132	03-29-11	0.0	42.8	14.3	42.9	96.1	0.2	62.2	478	2
Lab #0221	04-25-11	0.0	41.8	14.6	43.6	96.1	0.1	62.8	483	1
Lab #0323	05-17-11	0.0	42.8	15.3	41.9	95.5	0.0	61.8	472	1
ASH GROVE AGGREGATES INC-BOLIVAR, BUTLER, MO										
Stockpile #1										
Lab #0011	02-16-11	1.0	51.0	11.5	36.5	90.9	0.5	56.2	408	6
Lab #0228	04-27-11	1.1	50.7	11.4	36.8	95.5	0.7	56.3	430	8
ASH GROVE AGGREGATES - KIFER, BUTLER, MO										
ASH GROVE AGGREGATES INC-BUFFALO, BUTLER, MO										
Stockpile #1										
Lab #0057	03-03-11	9.7	46.0	8.8	35.5	92.7	11.0	52.3	388	115
Lab #0174	04-06-11	8.9	45.3	8.4	37.4	91.5	10.5	53.8	394	113
Lab #0255	05-03-11	7.7	43.6	10.5	38.2	90.4	10.8	55.4	401	120
Lab #0397	06-09-11	9.4	46.4	8.9	35.3	92.5	11.2	52.2	387	117
BAILEY QUARRIES INC-CHESAPEAKE Q., MT VERNON, MO										
Stockpile #1										
Lab #0047	03-02-11	0.2	33.5	10.4	55.9	88.3	11.1	70.5	498	157
Lab #0288	05-10-11	0.1	33.9	12.7	53.3	92.1	10.6	69.4	511	147
Stockpile #4										
Lab #0048	03-02-11	2.5	43.6	8.8	45.1	89.6	11.2	61.3	439	137
Lab #0289	05-10-11	3.7	41.9	5.9	48.5	88.1	10.4	62.5	441	130
BAILEY QUARRIES INC-JANE, REPUBLIC, MO										
Stockpile #2										
Lab #0077	03-14-11	0.8	46.9	9.4	42.9	89.0	10.7	60.3	429	129
Lab #0401	06-06-11	1.8	46.1	9.4	42.7	88.5	11.1	59.9	424	133
BAILEY QUARRIES, INC.-MADRY QUARRY, VERONA, MO										
Stockpile #2										
Lab #0025	02-22-11	4.9	53.4	9.4	32.3	82.6	1.3	51.3	339	13
Lab #0350	05-23-11	2.1	54.2	9.8	33.9	84.0	1.0	53.3	358	13
BAILEY QUARRIES - SARCOXIE, REPUBLIC, MO										
Stockpile #1										
Lab #0291	05-12-11	2.4	51.6	11.8	34.2	88.1	0.1	54.2	382	1
BAILEY QUARRIES INC-STOCKTON, STOCKTON, MO										
Stockpile #1										
Lab #0053	02-28-11	0.9	47.2	13.7	38.2	92.5	0.2	58.2	431	2
Lab #0133	03-30-11	1.7	48.4	13.6	36.3	94.0	0.1	56.6	425	1
Lab #0230	04-27-11	1.8	47.4	14.2	36.6	94.2	0.1	57.0	429	1
Lab #0378	06-02-11	0.7	49.3	14.5	35.5	94.5	0.1	56.5	427	1
BARBER & SONS AGGREGATES, LEE'S SUMMIT, MO										
Stockpile #1										
Lab #0088	03-22-11	11.7*	49.9	8.5	29.9	81.0	1.7	47.5	0	0
Lab #0206	04-26-11	3.2	47.4	8.9	40.5	83.8	0.4	57.7	387	5
Lab #0295	05-13-11	8.7	40.0	6.9	44.4	85.7	0.5	58.5	401	6
Lab #0309	05-17-11	7.7	32.1	7.4	52.8	85.8	0.6	65.3	448	8
Lab #0365	06-01-11	9.3	44.7	9.7	36.3	85.6	0.5	53.3	365	5
BARRETT MATERIALS INC, NEW HAVEN, MO										
Stockpile #1										
Lab #0072	03-14-11	0.1	25.9	10.6	63.4	49.2*	5.9	76.2	0	0
Lab #0213	04-25-11	0.2	45.3	9.2	45.3	86.2	10.4	62.1	429	129
Lab #0318	05-20-11	0.1	44.3	10.8	44.8	85.6	9.8	62.4	427	122
BASE ROCK MINERALS, BONNE TERRE, MO										
Stockpile #1										
Lab #0152	04-06-11	1.0	47.7	11.8	39.5	97.7	11.3	58.5	457	132

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JANUARY 1 THROUGH JUNE 30, 2011

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
BASE ROCK MINERALS, BONNE TERRE, MO										
Stockpile #2										
Lab #0153	04-06-11	0.5	48.9	13.0	37.6	100.9	11.6	57.6	465	134
BELLE PLANT FOODS, BELLE, MO										
Stockpile #1										
Lab #0060	03-08-11	4.4	18.0	13.8	63.8	92.8	2.2	76.6	569	34
Lab #0156	04-04-11	4.1	18.8	14.4	62.7	91.6	3.1	76.0	557	47
BOONE QUARRIES INC - WEST, COLUMBIA, MO										
BOONE QUARRIES INC - NORTH, COLUMBIA, MO										
BOONE QUARRIES - EAST, COLUMBIA, MO										
Stockpile #1										
Lab #0430	06-22-11	0.6	16.9	13.1	69.4	93.6	3.7	81.5	610	60
Lab #0449	06-29-11	0.7	17.5	14.5	67.3	90.5	3.0	80.4	582	48
Stockpile #2										
Lab #0429	06-22-11	19.5*	38.4	8.5	33.6	90.1	2.4	48.3	0	0
Lab #0450	06-29-11	17.8*	40.1	7.7	34.4	94.3	1.3	49.0	0	0
CALCIUM PRODUCTS, INC., GILMORE CITY, IA										
CAPITAL QUARRIES CO., INC.-ARCADIA, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0154	04-06-11	1.7	50.4	12.9	35.0	100.3	12.1	55.3	444	134
CAPITAL QUARRIES, INC.- DANVILLE, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0063	03-10-11	2.9	53.1	10.3	33.7	91.8	0.7	53.2	390	7
Lab #0218	04-28-11	3.0	55.2	10.2	31.6	92.5	0.6	51.5	381	6
CAPITAL QUARRIES CO., INC- EUGENE, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0038	02-28-11	0.7	36.1	8.9	54.3	69.8	8.4	68.7	383	115
CAPITAL QUARRIES CO., INC.-OWENSVIL, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0028	02-16-11	7.5	45.4	13.7	33.4	98.1	11.9	53.0	416	126
Lab #0182	04-13-11	1.8	49.4	8.6	40.2	87.3	10.4	57.7	403	120
Lab #0358	05-23-11	0.9	42.6	10.7	45.8	87.2	11.0	62.9	439	132
CAPITAL QUARRIES, INC-STADIUM WEST, JEFFERSON CITY, MO										
CAPITAL QUARRIES INC-ROLLA Q #4, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0034	03-02-11	0.1	9.3	10.6	80.0	63.5*	7.8	88.7	0	0
Lab #0275	05-04-11	0.9	13.6	12.3	73.2	85.2	10.1	84.0	572	170
Lab #0404	06-08-11	12.2*	44.8	8.5	34.5	89.2	10.9	50.8	0	0
Stockpile #2										
Lab #0033	03-02-11	6.6	23.7	10.1	59.6	90.4	11.1	71.6	518	159
Lab #0276	05-04-11	9.9	46.5	7.5	36.1	85.5	10.2	52.2	357	107
Lab #0405	06-08-11	0.8	12.1	11.3	75.8	86.9	10.5	85.6	595	180
CAPITAL QUARRIES INC-CALIFORNIA Q#5, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0031	03-01-11	4.8	49.6	10.4	35.2	88.0	2.4	53.8	379	26
Lab #0087	03-21-11	5.5	51.4	9.7	33.4	86.2	3.0	52.1	359	31
Lab #0286	05-11-11	3.0	44.8	14.0	38.2	86.7	2.6	57.8	401	30
Lab #0393	06-07-11	3.1	39.4	12.9	44.6	86.4	2.3	62.2	430	29
CAPITAL QUARRIES INC.-HERMANN #14, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0036	03-04-11	1.6	47.5	7.8	43.1	88.9	10.7	59.7	424	128
Lab #0264	05-03-11	10.5*	44.7	7.8	37.0	88.2	10.7	52.9	0	0
Lab #0368	05-31-11	0.9	45.2	9.3	44.6	89.9	10.6	61.5	442	130
CAPITAL QUARRIES, INC - SALEM, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0093	03-21-11	1.8	43.8	15.7	38.7	94.3	10.7	59.1	446	126
Lab #0266	05-05-11	1.7	43.6	11.0	43.7	93.9	11.0	61.2	460	135
CAPITAL QUARRIES INC-SULLIVAN, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0029	02-17-11	7.2	44.9	13.9	34.0	100.1	12.4	53.6	429	133
Lab #0366	05-31-11	5.5	43.6	14.1	36.8	98.0	10.9	56.2	440	122
Stockpile #2										
Lab #0367	05-31-11	0.1	6.8	42.0	51.1	98.1	11.3	78.0	612	176
CARROLL COUNTY STONE, INC., REPUBLIC, MO										
Stockpile #1										
Lab #0023	02-21-11	2.4	46.7	9.3	41.6	89.2	11.0	58.9	420	129
Lab #0261	05-06-11	0.4	38.9	10.1	50.6	87.1	10.3	66.4	463	137
CARTHAGE CRUSHED LIMESTONE, CARTHAGE, MO										
Stockpile #1										
Lab #0117	03-21-11	0.5	8.9	4.9	85.7	93.3	0.1	90.9	678	2
Lab #0399	06-08-11	2.4	29.0	6.3	62.3	95.5	0.1	73.3	560	1

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JANUARY 1 THROUGH JUNE 30, 2011

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
CARTHAGE CRUSHED LIMESTONE, CARTHAGE, MO										
Stockpile #2										
Lab #0118	03-21-11	3.5	2.5	3.6	90.4	96.1	0.1	93.2	716	2
Lab #0400	06-08-11	0.0	0.8	2.8	96.4	95.2	0.1	98.3	749	2
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Stockpile #2										
Lab #0240	05-05-11	0.1	32.2	14.9	52.8	90.7	0.2	69.8	506	3
Lab #0332	05-23-11	0.4	35.0	16.4	48.2	91.5	0.0	66.8	489	4
Lab #0425	06-23-11	0.1	31.3	15.2	53.4	92.5	0.3	70.3	521	4
CENTRAL STONE COMPANY-ANTONIA, HANNIBAL, MO										
CENTRAL STONE COMPANY - BETHEL, SHELBYVILLE, MO										
Stockpile #3										
Lab #0328	05-23-11	1.0	44.8	11.7	42.5	92.5	1.0	60.7	449	9
Lab #0426	06-23-11	0.9	45.6	11.6	41.9	92.5	0.6	60.3	446	7
Lab #0439	06-28-11	0.5	44.7	12.6	42.2	93.2	1.6	60.9	454	19
CENTRAL STONE CO - FORT BELLE - #31, FLORISSANT, MO										
Stockpile #1										
Lab #0458	06-29-11	0.3	0.8	2.4	96.5	92.2	2.7	98.1	724	53
CENTRAL STONE COMPANY - PARIS, PARIS, MO										
Stockpile #2										
Lab #0241	05-05-11	7.0	47.3	12.7	33.0	91.1	0.2	52.4	382	2
Lab #0438	06-28-11	7.4	46.1	11.9	34.6	91.2	0.3	53.3	389	3
CENTRAL STONE COMPANY - CURRYVILLE, CURRYVILLE, MO										
Stockpile #1										
Lab #0214	04-28-11	0.7	43.4	11.8	44.1	88.9	1.1	62.0	441	14
Lab #0239	05-05-11	0.5	44.6	12.1	42.8	90.1	0.9	61.2	441	11
Lab #0284	05-12-11	1.0	43.4	12.1	43.5	88.6	1.1	61.6	437	14
CENTRAL STONE COMPANY - PERRY, HANNIBAL, MO										
Stockpile #1										
Lab #0435	06-22-11	4.9	44.2	9.3	41.6	85.8	1.5	58.2	400	17
Lab #0448	06-28-11	7.6	43.2	8.8	40.4	87.5	2.3	56.5	395	26
CENTRAL STONE COMPANY - EWING, HANNIBAL, MO										
Stockpile #2										
Lab #0330	05-23-11	2.1	45.3	12.0	40.6	85.0	0.0	59.1	402	2
Lab #0432	06-22-11	1.9	47.1	11.7	39.3	88.0	0.1	58.1	409	1
Lab #0445	06-28-11	1.9	39.3	10.7	48.1	83.9	0.1	64.3	432	1
Stockpile #3										
Lab #0433	06-22-11	2.2	46.5	11.4	39.9	88.4	0.3	58.4	413	4
Lab #0446	06-28-11	1.1	43.2	12.9	42.8	87.9	0.2	61.3	431	2
CENTRAL STONE COMPANY - TAYLOR, TAYLOR, MO										
Stockpile #2										
Lab #0331	05-23-11	2.9	43.5	12.6	41.0	81.5	1.0	59.4	388	14
Lab #0434	06-22-11	1.2	39.1	14.1	45.6	82.6	1.2	63.8	422	15
Lab #0447	06-28-11	1.5	41.5	13.0	44.0	84.5	1.5	62.2	420	19
CLEVER STONE CO, CLEVER, MO										
Stockpile #1										
Lab #0197	04-19-11	0.0	40.9	17.0	42.1	93.7	0.1	62.5	469	1
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Stockpile #1										
Lab #0136	03-28-11	0.1	15.3	17.3	67.3	97.9	0.1	81.5	638	2
Stockpile #4										
Lab #0137	03-28-11	0.0	10.0	13.4	76.6	97.4	0.1	87.1	679	2
COUNTY LINE QUARRY, WELLSVILLE, MO										
Stockpile #1										
Lab #0283	05-12-11	5.6	45.9	9.6	38.9	87.3	4.6	56.1	392	52
Lab #0417	06-23-11	3.6	45.7	9.8	40.9	89.3	4.3	58.2	416	50
COUNTY LINE STONE, CASSVILLE, MO										
CRAWFORD LIME & MATERIAL CO, CUBA, MO										
Stockpile #1										
Lab #0098	03-21-11	3.5	48.7	8.5	39.3	89.8	10.4	56.6	406	118
Lab #0265	05-05-11	1.5	44.0	10.0	44.5	91.7	10.8	61.5	451	133
CRIDER BROTHERS LIME CO., INC., EMINENCE, MO										
D & D SUPPLY, LONE JACK, MO										
DELEWARE STONE LLC, WINONA, MO										
DOSS & HARPER STONE CO., HOUSTON, MO										
Stockpile #1										
Lab #0078	03-15-11	0.8	50.5	9.8	38.9	42.6*	10.2	57.4	0	0
DOSS & HARPER STONE CO, WEST PLAINS, MO										
Stockpile #1										
Lab #0079	03-15-11	0.3	57.0	9.0	33.7	83.3	10.0	53.4	356	107

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JANUARY 1 THROUGH JUNE 30, 2011

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
DOUBLE EAGLE AGGREGATES, MILLER, MO										
Stockpile #2										
Lab #0352	05-25-11	0.5	49.9	9.6	40.0	90.3	11.0	58.2	421	125
DOUBLE EAGLE AGGREGATES CO., INC, MILLER, MO										
Stockpile #1										
Lab #0080	03-17-11	0.3	52.0	9.3	38.4	85.9	10.0	57.0	392	114
EVERETT QUARRIES #1-LATHROP, PLATTSBURG, MO										
Stockpile #2										
Lab #0142	04-07-11	0.4	47.5	11.1	41.0	82.0	1.1	59.5	391	13
Lab #0248	05-02-11	0.9	49.9	11.7	37.5	81.0	1.0	57.0	369	11
Lab #0390	06-03-11	0.4	49.0	11.9	38.7	82.6	1.0	58.1	384	12
EVERETT QUARRIES #6-KING, PLATTSBURG, MO										
Stockpile #1										
Lab #0010	02-14-11	2.7	46.8	9.1	41.4	87.6	1.6	58.6	410	19
Lab #0119	03-21-11	2.8	43.5	9.1	44.6	87.5	1.4	60.9	427	17
Lab #0305	05-16-11	1.8	46.3	10.4	41.5	87.5	1.5	59.3	415	18
Lab #0386	06-03-11	0.5	44.7	12.1	42.7	87.9	1.6	61.1	430	20
EVERETT QUARRIES #53-CAMERON, PLATTSBURG, MO										
Stockpile #1										
Lab #0140	04-07-11	1.4	45.8	10.2	42.6	74.8	2.0	60.2	360	24
Lab #0246	05-02-11	0.9	44.0	10.1	45.0	72.7	2.0	62.1	361	25
Lab #0387	06-01-11	1.8	44.7	9.4	44.1	75.9	1.6	60.9	370	19
Stockpile #2										
Lab #0141	04-07-11	0.3	49.4	11.2	39.1	72.6	2.2	58.2	338	26
Lab #0247	05-02-11	0.2	51.4	11.6	36.8	72.6	2.3	56.6	329	26
Lab #0388	06-01-11	0.5	48.1	11.5	39.9	70.9	2.3	58.8	334	27
EVERETT QUARRIES #54-GOWER, PLATTSBURG, MO										
Stockpile #3										
Lab #0148	04-08-11	1.9	45.9	12.2	40.0	80.4	0.9	58.8	378	11
Lab #0281	05-04-11	1.3	51.0	9.9	37.8	81.2	1.1	56.5	367	12
Lab #0348	05-26-11	0.7	48.3	11.0	40.0	79.0	1.0	58.7	371	12
Lab #0463	06-21-11	0.6	48.5	10.6	40.3	82.7	1.1	58.8	389	13
EVERETT QUARRIES #59-STANBERRY, PLATTSBURG, MO										
Stockpile #1										
Lab #0082	03-21-11	0.8	42.5	12.5	44.2	73.1	2.0	62.3	364	25
Lab #0170	04-11-11	1.2	37.9	15.0	45.9	72.5	2.0	64.4	373	26
Lab #0209	04-22-11	3.5	41.9	12.8	41.8	71.2	1.9	60.0	342	23
FALL VALLEY STONE, INC., MT. VERNON, MO										
FARMERS LITTER & LIME, SIKESTON, MO										
FISCHER QUARRIES LLC, HUGHESVILLE, MO										
Stockpile #1										
Lab #0009	02-18-11	1.0	46.5	11.9	40.6	96.0	1.6	59.4	456	19
Lab #0091	03-23-11	0.6	48.0	12.2	39.2	95.9	1.6	58.5	449	19
Lab #0195	04-19-11	0.9	45.0	12.9	41.2	96.3	1.4	60.2	464	17
Lab #0338	05-24-11	0.4	45.6	13.9	40.1	97.8	1.0	59.8	468	13
Stockpile #4										
Lab #0008	02-18-11	0.8	48.9	12.9	37.4	96.7	1.5	57.4	444	17
Lab #0092	03-23-11	1.2	49.4	12.9	36.5	97.2	1.2	56.6	440	14
Lab #0194	04-19-11	0.3	47.9	13.0	38.8	97.5	1.0	58.6	457	12
Lab #0339	05-24-11	0.7	45.5	12.8	41.0	95.8	2.0	60.1	460	18
FISCHER QUARRY & HAULING, LLC, ST. MARY, MO										
Stockpile #1										
Lab #0109	03-25-11	2.2	59.4	13.5	24.9	98.3	0.1	47.9	376	1
GABEL STONE COMPANY INC., WILLOW SPRINGS, MO										
HIGGINS - MEEKER QUARRIES LLC, DEEPWATER, MO										
Stockpile #1										
Lab #0356	05-27-11	16.1*	46.5	8.1	29.3	85.1	5.0	45.8	0	0
HIGGINS QUARRY, LLC, LOOSE CREEK, MO										
Stockpile #2										
Lab #0061	03-08-11	1.2	52.6	7.6	38.6	87.8	10.5	56.3	396	118
Lab #0359	05-24-11	0.7	48.2	9.9	41.2	88.6	11.0	59.2	420	130
HILTY QUARRIES, INC, CLINTON, MO										
HILTY QUARRIES, INC. - QUARLES, CLINTON, MO										
HILTY QUARRIES, INC - LEETON, CLINTON, MO										
Stockpile #3										
Lab #0056	03-01-11	1.7	44.3	11.6	42.4	91.2	0.3	60.4	441	4
Lab #0175	04-07-11	2.1	42.3	11.5	44.1	90.6	0.3	61.6	446	4
HILTY QUARRIES, INC. - MONTROSE, CLINTON, MO										
Stockpile #1										
Lab #0115	03-22-11	3.2	42.3	11.7	42.8	89.4	0.3	60.4	432	4
Lab #0224	04-26-11	4.4	54.5	10.4	30.7	81.7	0.9	50.6	330	9

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		+8	-8+40	-40+60	-60				ENM	EMg
HILTY QUARRIES, INC. - MONTROSE, CLINTON, MO (Continued)										
Stockpile #1										
Lab #0319	05-16-11	7.3	55.3	10.9	26.5	80.6	1.0	46.9	302	9
Stockpile #3										
Lab #0114	03-22-11	2.0	55.7	11.7	30.6	86.0	0.3	51.5	355	3
Lab #0225	04-26-11	3.2	42.0	11.2	43.6	89.3	0.2	60.8	434	2
Lab #0320	05-16-11	2.7	44.0	11.4	41.9	88.6	0.0	59.7	423	5
HILTY QUARRIES, INC - SOUTH DELL, CLINTON, MO										
Stockpile #1										
Lab #0130	03-29-11	5.5	50.0	9.5	35.0	94.8	0.2	53.2	403	2
Lab #0199	04-22-11	6.0	52.3	11.6	30.1	94.5	0.4	50.1	379	4
Lab #0353	05-23-11	5.3	52.0	11.5	31.2	93.8	1.0	51.1	383	5
HILTY QUARRIES, INC - TIGHTWAD, CLINTON, MO										
Stockpile #1										
Lab #0065	03-07-11	1.8	46.8	12.1	39.3	89.8	0.1	58.3	419	1
Lab #0200	04-22-11	2.0	43.3	13.8	40.9	90.3	0.2	60.0	433	2
Lab #0375	06-01-11	2.3	44.0	11.8	41.9	90.5	0.3	60.0	434	4
Stockpile #2										
Lab #0066	03-07-11	0.2	46.0	9.7	44.1	70.2	4.8	61.4	345	59
Lab #0201	04-22-11	0.3	52.2	9.1	38.4	67.6	3.8	56.9	308	43
Lab #0376	06-01-11	2.2	57.7	9.6	30.5	78.8	3.9	50.7	320	40
Stockpile #3										
Lab #0067	03-07-10	4.1	43.9	11.7	40.3	92.1	0.2	58.3	430	2
Lab #0202	04-22-11	2.3	42.8	12.2	42.7	90.6	0.4	60.7	440	5
Lab #0377	06-01-11	0.1	43.4	13.8	42.7	93.4	0.4	61.8	462	5
HILTY QUARRIES, INC. - URICH, CLINTON, MO										
Stockpile #1										
Lab #0112	03-22-11	9.6	56.4	7.7	26.3	77.2	0.8	45.0	278	7
Lab #0226	04-26-11	9.3	58.0	6.4	26.3	80.8	0.6	44.6	289	5
Lab #0321	05-16-11	10.7*	54.9	8.0	26.4	75.5	1.0	44.9	0	0
Stockpile #2										
Lab #0113	03-22-11	12.4*	54.2	9.1	24.3	78.9	0.8	43.3	0	0
Lab #0227	04-26-11	11.2*	53.1	7.4	28.3	79.0	0.8	46.0	0	0
Lab #0322	05-16-11	3.7	53.7	10.2	32.4	75.7	1.0	51.9	315	9
HILTY QUARRIES INC.- WARRENSBURG, CLINTON, MO										
HOSTETTLER QUARRY, LLC, BUFFALO, MO										
Stockpile #1										
Lab #0254	05-03-11	2.4	34.9	10.6	52.1	81.9	9.6	67.2	440	129
Lab #0398	06-09-11	7.4	51.0	7.1	34.5	90.0	10.9	51.5	371	112
HORN QUARRY, LLC, BRECKENRIDGE, MO										
Stockpile #1										
Lab #0303	05-16-11	0.8	43.9	12.0	43.3	88.1	1.2	61.5	433	15
Lab #0384	06-03-11	1.3	48.2	9.7	40.8	88.7	0.9	58.7	416	11
HUNT-MARTIN MATERIALS, PARKVILLE, MO										
HUNT-MARTIN MATERIALS - STAMPER, KANSAS CITY, MO										
Stockpile #2										
Lab #0186	04-18-11	0.2	32.9	15.0	51.9	90.5	0.7	69.1	500	10
Lab #0282	05-06-11	0.3	34.2	14.6	50.9	93.0	0.6	68.2	507	8
Lab #0389	06-03-11	0.2	32.8	14.6	52.4	89.9	0.7	69.4	499	10
Lab #0468	06-23-11	0.1	31.5	15.2	53.2	90.9	0.8	70.2	510	11
HUNTER STONE CO, ELLSINORE, MO										
Stockpile #1										
Lab #0003	02-15-11	3.9	47.8	11.8	36.5	91.9	11.0	55.5	408	122
HUTCHENS CONSTRUCTION-PURDY, CASSVILLE, MO										
HUTCHENS CONSTRUCTION-EAGLE ROCK, CASSVILLE, MO										
Stockpile #2										
Lab #0263	05-06-11	4.6	43.6	10.2	41.6	90.7	10.9	58.6	425	128
HUTCHENS CONSTRUCTION CO-SHELL KNOB, CASSVILLE, MO										
Stockpile #1										
Lab #0024	02-21-11	2.6	49.2	9.5	38.7	94.1	11.5	56.7	427	130
Lab #0262	05-06-11	1.7	47.3	8.8	42.2	92.4	11.1	59.3	438	132
HUTCHENS CONSTRUCTION-WASHBURN, CASSVILLE, MO										
JASPER STONE LLC, JASPER, MO										
Stockpile #1										
Lab #0022	02-23-11	3.8	42.7	15.9	37.6	97.8	0.1	57.8	452	1
Lab #0259	05-03-11	0.8	37.5	16.4	45.3	96.5	0.1	64.5	498	1
JENKINS QUARRY, CASSVILLE, MO										
JIMMY SANDERS, INC, LEACHVILLE, AR										
JOPLIN STONE CO Q DUENWEG, JOPLIN, MO										
Stockpile #2										
Lab #0046	03-01-11	0.6	49.9	12.4	37.1	78.9	0.1	57.0	360	1

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		+8	-8+40	-40+60	-60				ENM	EMg
JOPLIN STONE CO Q DUENWEG, JOPLIN, MO (Continued)										
Stockpile #2										
Lab #0290	05-12-11	0.7	44.3	13.9	41.1	81.3	0.1	60.5	394	1
LEO JOURNAGAN CONSTRUCTION CO, INC, SPRINGFIELD, MO										
Stockpile #1										
Lab #0196	04-19-11	2.7	51.5	13.6	32.2	97.2	0.3	53.2	414	3
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Stockpile #2										
Lab #0442	06-28-11	0.0	17.0	13.0	70.0	91.7	0.7	82.1	602	11
Stockpile #3										
Lab #0441	06-28-11	0.3	7.5	6.7	85.5	89.3	1.8	91.4	653	33
KELLEY QUARRY, CROCKER, MO										
KEMP STONE, INC, PRYOR, OK										
Stockpile #1										
Lab #0076	03-14-11	5.1	51.3	10.6	33.0	75.4	0.2	52.2	315	2
Lab #0292	05-13-11	4.1	42.2	12.5	41.2	77.6	0.1	59.3	368	1
KERFORD LIMESTONE CO, WEEPING WATER, NE										
Stockpile #1										
Lab #0191	04-21-11	0.0	0.1	0.2	99.7	89.0	0.6	99.8	711	12
Lab #0326	05-19-11	0.1	0.7	0.3	98.9	91.0	1.0	99.3	723	12
KNOX COUNTY STONE CO, EDINA, MO										
Stockpile #1										
Lab #0443	06-28-11	0.2	35.4	12.7	51.7	90.0	3.0	68.2	491	41
Stockpile #2										
Lab #0431	06-22-11	0.3	39.4	14.2	46.1	94.1	1.4	64.5	485	18
L & W QUARRIES, INC - CLARKDALE #8, CENTERVILLE, IA										
L & W QUARRIES, INC - WALNUT CITY, CENTERVILLE, IA										
L & W QUARRIES INC., CENTERVILLE, IA										
Stockpile #1										
Lab #0444	06-28-11	5.0	43.7	9.0	42.3	80.6	0.5	58.6	378	6
LILE QUARRY INC., STRAFFORD, MO										
Stockpile #2										
Lab #0139	03-31-11	0.0	51.4	11.0	37.6	79.3	9.6	57.1	362	110
Lab #0316	05-19-11	0.2	52.2	10.3	37.3	80.2	9.2	56.5	363	104
MAGRUDER LIMESTONE CO-ASHLEY, BOWLING GREEN, MO										
Stockpile #1										
Lab #0422	06-23-11	0.3	49.5	13.0	37.2	97.9	0.4	57.4	449	5
Lab #0452	06-29-11	0.4	49.2	12.8	37.6	97.2	0.6	57.6	448	7
MAGRUDER LIMESTONE CO, INC.-BOWLING, BOWLING GREEN, MO										
Stockpile #1										
Lab #0423	06-23-11	0.8	45.4	13.1	40.7	86.7	0.9	59.9	416	11
MAGRUDER LIMESTONE CO-FRANKFORD, BOWLING GREEN, MO										
Stockpile #1										
Lab #0424	06-23-11	1.2	37.9	13.3	47.6	97.8	1.9	65.1	509	25
Lab #0453	06-29-11	0.8	40.3	13.2	45.7	96.5	1.9	63.7	492	24
MAGRUDER LIMESTONE - SILEX QUARRY, TROY, MO										
Stockpile #2										
Lab #0419	06-23-11	7.3	48.6	7.7	36.4	92.3	3.1	53.2	393	33
Lab #0456	06-29-11	7.6	48.7	7.6	36.1	91.1	2.9	52.8	385	31
MAGRUDER LIMESTONE CO Q TROY, TROY, MO										
Stockpile #1										
Lab #0418	06-23-11	2.7	45.7	9.3	42.3	90.7	2.7	59.3	430	32
Lab #0457	06-29-11	4.6	54.0	7.1	34.3	85.7	3.3	52.1	357	34
MANSFIELD LIME & STONE, MANSFIELD, MO										
MARTIN MARIETTA AGG - APPLETON, PERRYVILLE, MO										
MARTIN MARIETTA AGGREGATE-FREDONIA, FREDONIA, KY										
MARTIN MARIETTA AGG-PERRYVILLE, PERRYVILLE, MO										
Stockpile #1										
Lab #0107	03-25-11	0.1	0.3	0.5	99.1	94.8	2.7	99.5	754	54
Stockpile #2										
Lab #0108	03-25-11	4.2	55.9	10.3	29.6	90.3	3.1	49.8	359	31
MERTENS CONST CO-AUXVASSE, KINGDOM CITY, MO										
Stockpile #2										
Lab #0437	06-23-11	8.8	51.2	8.5	31.5	93.8	1.9	49.4	371	19
Stockpile #3										
Lab #0285	05-12-11	5.0	49.8	9.9	35.3	98.1	4.3	53.7	421	46
Lab #0436	06-23-11	2.7	50.6	10.2	36.5	98.2	4.1	55.3	434	45
Lab #0451	06-29-11	3.4	49.9	10.9	35.8	96.6	4.0	54.8	424	44
MERTENS CONST CO-Q-REFORM, KINGDOM CITY, MO										
Stockpile #1										
Lab #0219	04-29-11	6.7	53.6	11.0	28.7	89.7	1.3	48.7	349	13

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2011

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
MERTENS CONST CO-Q-REFORM, KINGDOM CITY, MO										
Stockpile #2										
Lab #0220	04-29-11	3.9	43.9	11.9	40.3	79.1	3.1	58.4	370	36
MFA INC, COLUMBIA, MO										
MID-COUNTY MATERIALS, WAYNESVILLE, MO										
Stockpile #1										
Lab #0370	06-01-11	0.0	0.8	1.3	97.9	72.8	8.6	98.9	576	170
MID-MISSOURI LIMESTONE INC-MBQ, KINGDOM CITY, MO										
Stockpile #1										
Lab #0123	03-28-11	4.7	50.6	13.1	31.6	94.0	0.1	52.1	392	1
Lab #0364	05-26-11	5.3	51.7	12.3	30.7	91.5	0.0	51.0	373	3
MID-MISSOURI LIMESTONE, INC.-HOUSTO, KINGDOM CITY, MO										
Stockpile #1										
Lab #0007	02-18-11	3.2	51.6	10.1	35.1	93.0	0.5	54.1	402	5
Lab #0090	03-23-11	4.8	48.3	11.1	35.8	88.6	1.0	54.5	387	11
Lab #0193	04-19-11	4.8	49.1	11.7	34.4	92.5	0.4	53.7	397	4
Lab #0337	05-24-11	3.9	49.1	11.9	35.1	90.9	0.0	54.5	396	3
MID-MISSOURI LIMESTONE-RIGGS, KINGDOM CITY, MO										
Stockpile #2										
Lab #0274	05-10-11	3.5	51.5	7.7	37.3	86.1	5.4	54.8	377	59
Lab #0327	05-23-11	3.2	50.3	8.7	37.8	88.1	6.0	55.6	392	63
Stockpile #3										
Lab #0256	05-09-11	2.3	54.3	9.0	34.4	88.4	6.3	53.4	377	67
Lab #0273	05-10-11	2.1	51.9	8.5	37.5	88.0	6.4	55.6	391	71
MIDWEST MINERALS, INC, PITTSBURG, KS										
MIDWEST MINERALS INC - JASPER, PITTSBURG, KS										
Stockpile #1										
Lab #0026	02-23-11	0.8	45.3	13.5	40.4	98.1	0.1	59.8	470	1
Lab #0257	05-03-11	0.8	42.8	14.8	41.6	97.4	0.2	61.2	477	2
MIDWEST STONE LLC-WHITEWATER, WENTZVILLE, MO										
MISSISSIPPI LIME COMPANY, STE. GENEVIEVE,, MO										
Stockpile #1										
Lab #0105	03-24-11	0.0	0.2	0.3	99.5	98.9	0.2	99.7	789	4
Lab #0150	04-06-11	0.0	0.0	0.3	99.7	98.7	0.2	99.9	789	4
Stockpile #3										
Lab #0106	03-24-11	0.0	41.5	29.7	28.8	98.7	0.2	57.0	450	2
Lab #0151	04-06-11	0.0	43.4	28.7	27.9	98.2	0.2	56.0	440	2
MISSOURI LIME AND MATERIAL CO., INC, EUREKA, MO										
Stockpile #1										
Lab #0211	04-21-11	0.0	1.4	5.7	92.9	97.6	5.9	96.7	755	114
Lab #0302	05-12-11	0.0	1.6	7.0	91.4	97.7	5.9	96.0	750	113
MK MINERALS INC., WATHENA, KS										
Stockpile #1										
Lab #0147	04-08-11	0.0	0.5	2.7	96.8	88.5	0.6	98.5	698	12
Lab #0216	04-29-11	0.0	1.1	3.4	95.5	88.1	0.6	97.8	689	12
Lab #0349	05-27-11	0.0	0.8	2.8	96.4	85.2	1.0	98.3	670	14
Lab #0467	06-23-11	0.0	0.6	2.5	96.9	88.2	0.7	98.6	695	14
MO VALLEY GRAIN & PELLETIZING, MISSOURI VALLEY, IA										
MORRIS ROCK, DEERFIELD, MO										
MOUNTAIN GROVE QUARRY, MOUNTAIN GROVE, MO										
KEITH MURRAY, PLATO, MO										
NELSON BROS. QUARRIES, JASPER, MO										
Stockpile #1										
Lab #0027	02-23-11	0.0	42.5	16.5	41.0	97.3	0.2	61.5	479	2
Lab #0258	05-03-11	0.0	46.1	14.7	39.2	95.1	0.1	59.5	453	1
NEMO SAND & GRAVEL, QUARRY, PITTSBURG, MO										
Stockpile #1										
Lab #0021	02-23-11	1.7	41.6	9.9	46.8	76.1	8.9	63.1	384	112
Lab #0131	03-29-11	6.4	44.1	7.2	42.3	85.7	10.3	57.6	395	119
Lab #0222	04-25-11	3.6	39.7	7.3	49.4	83.7	9.8	63.7	427	125
Lab #0324	05-17-11	3.0	41.8	8.4	46.8	81.1	9.0	62.3	404	117
NORRIS AGGREGATE PRODUCT CO-AMAZONI, AMAZONIA, MO										
NORRIS AGGREGATE PROD. CO.-BARNARD, BARNARD, MO										
NORRIS AGGREGATES PROD. CO.-BETHANY, BETHANY, MO										
Stockpile #5										
Lab #0070	03-10-11	1.2	46.8	11.4	40.6	74.4	1.7	59.1	352	20
Lab #0178	04-12-11	0.1	45.5	10.1	44.3	73.9	1.7	61.7	365	21
Lab #0267	05-02-11	0.2	43.8	12.5	43.5	72.5	1.8	62.0	359	22
NORRIS AGGREGATE PROD. CO. - BREIT, SAVANNAH, MO										
Stockpile #1										
Lab #0249	05-03-11	10.4*	48.6	8.4	32.6	80.7	1.3	49.8	0	0

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2011

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
NORRIS AGGREGATE PROD. CO. - BREIT, SAVANNAH, MO										
Stockpile #1										
Lab #0411	06-07-11	15.7*	46.8	7.2	30.3	79.1	1.4	46.3	0	0
Stockpile #4										
Lab #0144	04-08-11	15.1*	49.1	7.6	28.2	80.9	1.4	45.0	0	0
Lab #0250	05-03-11	13.1*	47.7	8.4	30.8	80.4	1.4	47.8	0	0
NORRIS AGGREGATE PRDCTS-BLUE MOUND, DAWN, MO										
Stockpile #1										
Lab #0111	03-21-11	0.4	53.7	11.6	34.3	90.3	1.0	54.7	395	11
Lab #0409	06-09-11	0.8	55.1	10.9	33.2	89.8	1.0	53.5	384	11
Stockpile #2										
Lab #0017	02-22-11	0.5	55.8	10.5	33.2	89.8	0.9	53.5	384	10
NORRIS AGGREGATE PROD. CO.-GALLATIN, GALLATIN, MO										
Stockpile #1										
Lab #0013	02-17-11	3.1	55.0	8.8	33.1	81.9	1.2	52.1	342	13
Lab #0071	03-10-11	3.2	58.9	10.3	27.6	80.5	1.2	48.5	312	12
Lab #0121	03-31-11	3.0	54.4	9.7	32.9	80.3	1.2	52.3	336	13
Lab #0340	05-25-11	4.0	57.4	10.1	28.5	83.6	1.0	48.9	327	9
NORRIS AGGREGATE PROD. CO.-GOODEN, RAVENWOOD, MO										
NORRIS AGGREGATE PRODUCTS CO - EAST, HUNTSVILLE, MO										
Stockpile #2										
Lab #0016	02-21-11	7.3	49.5	11.8	31.4	93.5	0.2	50.9	380	2
Lab #0120	03-30-11	6.0	52.4	11.6	30.0	91.1	1.6	50.1	365	16
Lab #0205	04-21-11	6.9	50.3	12.2	30.6	93.4	0.4	50.5	377	4
Lab #0296	05-09-11	6.8	50.2	12.5	30.5	92.9	0.5	50.6	376	5
Lab #0408	06-07-11	5.9	49.8	12.0	32.3	92.4	0.5	52.0	384	5
NORRIS AGGREGATE PROD. CO.-JEFFRIES, BLYTHEDALE, MO										
NORRIS AGGREGATE PROD. CO.-MAITLAND, MAITLAND, MO										
Stockpile #3										
Lab #0293	05-10-11	8.1	51.0	11.1	29.8	88.3	0.9	49.2	348	9
Lab #0343	05-20-11	8.7	48.1	10.8	32.4	88.1	1.0	50.9	359	8
Lab #0413	06-07-11	7.9	44.7	11.0	36.4	86.0	0.8	54.2	373	9
Lab #0460	06-24-11	12.5*	48.1	9.3	30.1	89.4	0.6	47.7	0	0
NORRIS AGGREGATE PROD CO-PRINCETON, PRINCETON, MO										
Stockpile #1										
Lab #0018	02-23-11	3.0	46.1	10.6	40.3	81.0	1.5	58.2	377	17
Lab #0042	03-02-11	6.5	48.1	9.8	35.6	79.6	1.0	53.5	341	11
Lab #0204	04-19-11	4.7	47.1	10.0	38.2	81.0	1.6	56.0	363	18
Lab #0306	05-18-11	4.5	48.1	10.0	37.4	79.6	1.5	55.4	353	17
NORRIS AGGREGATE PROD. CO.-TRENTON, TRENTON, MO										
NORRIS AGGREGATE PRODUCTS-NEW POINT, OREGON, MO										
OSAGE QUARRIES, INC, KINGDOM CITY, MO										
Stockpile #1										
Lab #0035	03-02-11	2.5	43.3	9.8	44.4	90.0	10.8	61.1	440	132
Lab #0158	04-04-11	1.5	42.5	8.2	47.8	93.1	11.1	63.3	472	141
Lab #0360	05-24-11	2.7	39.5	7.2	50.6	93.5	12.0	64.8	485	149
Stockpile #2										
Lab #0361	05-24-11	0.4	2.1	17.5	80.0	92.6	11.0	91.0	674	200
PELLETIZING COMPANY INC, GORDONVILLE, TN										
PHENIX ROCK, ASH GROVE, MO										
Stockpile #2										
Lab #0166	04-05-11	27.6*	36.8	9.0	26.6	92.1	0.1	41.2	0	0
PRESTAGE QUARRIES INC, TIPTON, MO										
Stockpile #1										
Lab #0126	03-31-11	0.1	45.0	11.0	43.9	77.8	6.3	61.8	384	78
Lab #0235	04-28-11	0.2	45.5	10.6	43.7	76.5	7.1	61.4	376	87
Lab #0335	05-23-11	0.0	41.4	12.2	46.4	79.9	6.0	64.1	410	74
PRAIRIE CREEK TERMINAL SERVICES INC, ELWOOD, IL										
ROCK QUARRIES, LLC, MOUNTAIN GROVE, MO										
S & A CONSTRUCTION LTD, ALLENDALE, MO										
SCHILDBERG CONST. CO.-BEDFORD Q., GREENFIELD, IA										
SHILDBERG CONST. CO.-DECATUR QUARRY, GREENFIELD, IA										
Stockpile #1										
Lab #0189	04-19-11	4.2	44.2	9.9	41.7	78.4	1.2	58.7	368	14
Lab #0245	05-02-11	5.6	45.8	9.6	39.0	76.7	1.2	56.2	345	13
Lab #0345	05-24-11	4.6	44.8	8.8	41.8	76.1	1.0	58.3	355	15
Lab #0466	06-22-11	3.6	48.1	10.9	37.4	76.7	1.5	56.0	343	17
Stockpile #2										
Lab #0188	04-19-11	1.5	48.9	10.7	38.9	80.3	1.0	57.5	370	12
Lab #0244	05-02-11	1.8	51.3	10.7	36.2	77.7	0.9	55.4	345	10
Lab #0344	05-24-11	2.2	47.1	10.7	40.0	79.6	1.0	58.2	371	12

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AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2011

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
SHILDBERG CONST. CO.-DECATUR QUARRY, GREENFIELD, IA (Continued)										
Stockpile #2										
Lab #0465	06-22-11	2.0	45.2	10.6	42.2	77.9	0.8	59.9	373	10
SCHILDBERG CONST. CO.-GRAHAM MO Q, GREENFIELD, IA										
Stockpile #1										
Lab #0171	04-14-11	1.7	52.2	10.7	35.4	87.0	0.5	54.9	382	5
Lab #0210	04-22-11	10.1*	50.6	9.0	30.3	87.8	0.6	48.4	0	0
Lab #0215	04-28-11	1.8	53.7	10.6	33.9	86.8	0.5	53.7	373	5
Lab #0342	05-20-11	3.6	56.6	9.9	29.9	86.2	1.0	50.0	345	6
Lab #0414	06-07-11	4.3	54.4	9.3	32.0	87.4	0.6	51.2	358	6
Lab #0461	06-24-11	2.7	49.3	12.3	35.7	86.9	0.7	55.4	385	8
SCHILDBERG CONST. CO.-SHAMBAUGH Q, GREENFIELD, IA										
Stockpile #2										
Lab #0346	05-24-11	2.5	48.8	10.0	38.7	77.7	6.0	56.9	354	63
Lab #0412	06-07-11	3.7	48.2	10.1	38.0	88.8	1.0	56.1	399	11
Lab #0464	06-22-11	2.2	47.8	11.4	38.6	88.2	1.1	57.4	405	13
SCHILDBERG CONST. CO.-WATTERSON, GREENFIELD, IA										
SHAWNEE STONE - CYPRESS PLANT, CYPRESS, IL										
Stockpile #1										
Lab #0002	02-14-11	5.3	38.6	15.7	40.4	91.5	1.2	59.5	435	14
Lab #0059	03-07-11	1.1	34.3	14.9	49.7	87.8	1.7	67.2	472	23
SHAWNEE STONE - JONESBORO PLANT, ANNA, IL										
Stockpile #2										
Lab #0001	02-14-11	7.4	37.0	11.7	43.9	98.2	0.4	60.2	473	5
Lab #0058	03-07-11	9.4	38.2	10.9	41.5	98.5	0.5	57.6	454	6
SHELBY CO. STONE, SHELBY, MO										
SIEGEL GRAVEL & EXCAVATING, VERSAILLES, MO										
Stockpile #1										
Lab #0040	03-04-11	2.0	30.6	14.0	53.4	87.0	10.4	69.5	483	144
Lab #0124	03-31-11	8.5	36.2	10.2	45.1	86.6	10.3	60.3	418	124
Lab #0233	04-28-11	10.2*	48.6	6.4	34.8	87.8	10.4	50.8	0	0
Lab #0333	05-23-11	2.4	37.9	14.4	45.3	83.0	10.0	63.4	421	124
Stockpile #2										
Lab #0041	03-04-11	1.5	46.2	10.1	42.2	80.1	9.7	59.8	383	116
Lab #0125	03-31-11	1.6	43.7	10.9	43.8	71.7	8.7	61.3	351	107
Lab #0234	04-28-11	2.7	45.5	8.9	42.9	78.1	9.2	59.6	372	110
Lab #0334	05-23-11	4.9	49.6	7.8	37.7	70.1	8.0	54.8	307	91
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Stockpile #3										
Lab #0005	02-17-11	1.7	15.7	34.7	47.9	102.6	12.1	72.6	596	176
Lab #0357	05-26-11	6.3	26.4	25.4	41.9	99.4	12.0	63.7	507	150
SKYLINE MATERIALS - NEWARK, DECORAH, IA										
Stockpile #1										
Lab #0329	05-23-11	4.9	42.7	9.9	42.5	90.6	2.0	59.1	428	28
Lab #0440	06-28-11	5.1	42.0	9.4	43.5	90.8	1.8	59.6	433	21
SKYLINE MATERIALS-GLASGOW, GLASGOW, MO										
Stockpile #1										
Lab #0052	03-08-11	1.5	42.3	15.0	41.2	83.9	4.8	60.8	408	58
Lab #0127	04-01-11	1.3	46.0	10.4	42.3	86.8	5.3	60.0	417	64
Lab #0184	04-20-11	1.6	48.7	9.9	39.8	85.5	5.3	57.9	396	61
Lab #0280	05-10-11	1.4	47.9	10.5	40.2	86.1	5.2	58.5	403	61
Lab #0391	06-06-11	1.3	48.0	10.2	40.5	85.0	5.4	58.6	399	63
SOUTH CENTRAL COOP, CAINSVILLE, MO										
Stockpile #1										
Lab #0203	04-19-11	0.0	0.2	0.5	99.3	91.9	0.1	99.7	733	2
SMASAL AGGREGATE, LINCOLN, MO										
Stockpile #1										
Lab #0064	03-07-11	0.2	45.0	14.7	40.1	97.2	1.6	60.2	468	19
Lab #0198	04-18-11	0.4	46.6	15.5	37.5	93.6	0.5	58.5	438	6
Lab #0374	06-01-11	0.1	48.9	13.5	37.5	88.1	1.6	57.8	408	19
SPRINGFIELD UNDERGROUND, INC., SPRINGFIELD, MO										
Stockpile #2										
Lab #0138	03-28-11	0.4	13.8	11.3	74.5	98.1	0.1	84.7	665	2
Lab #0311	05-16-11	0.9	13.3	9.6	76.2	97.8	0.1	85.3	667	2
S-S-S INC, LOUISIANA, MO										
Stockpile #1										
Lab #0421	06-23-11	2.5	45.7	12.1	39.7	96.1	0.1	58.4	449	1
Lab #0454	06-29-11	3.8	47.7	11.8	36.7	96.4	0.2	55.7	430	2
STOCKMAN QUARRY, LLC, JEFFERSON CITY, MO										
Stockpile #1										
Lab #0406	06-10-11	0.3	35.3	10.6	53.8	93.7	11.4	69.0	517	157

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		+8	-8+40	-40+60	-60				ENM	EMg
STOCKMAN QUARRY, LLC, JEFFERSON CITY, MO										
Stockpile #2										
Lab #0039	02-28-11	1.3	41.9	10.6	46.2	90.2	10.8	63.0	455	136
Lab #0217	04-27-11	1.2	42.8	11.2	44.8	89.1	10.6	62.2	444	132
Lab #0407	06-10-11	2.0	40.4	12.6	45.0	87.3	10.7	62.7	438	134
STRACK STONE, CAPE GIRARDEAU, MO										
Stockpile #1										
Lab #0015	02-23-11	15.4*	50.0	8.8	25.8	85.5	8.4	43.6	0	0
Lab #0050	03-04-11	5.5	41.6	10.7	42.2	85.4	8.3	59.0	403	98
STRACK STONE CO. - LODI, LLC, CAPE GIRARDEAU, MO										
Stockpile #3										
Lab #0051	03-04-11	2.9	7.9	15.9	73.3	99.6	12.2	84.8	676	207
TABLE ROCK ASPHALT CONST CO INC, BRANSON, MO										
Stockpile #1										
Lab #0312	05-17-11	0.8	42.9	12.7	43.6	78.3	8.2	61.9	388	102
Stockpile #2										
Lab #0313	05-17-11	0.0	0.2	2.1	97.7	75.3	1.0	99.0	596	20
TAYLOR QUARRIES, LOCKWOOD, MO										
Stockpile #1										
Lab #0168	04-07-11	0.2	51.1	13.4	35.3	94.4	1.5	56.1	424	17
Lab #0402	06-07-11	0.0	51.4	14.7	33.9	95.5	0.7	55.6	425	8
TOWER ROCK STONE CO, SCOTT CITY, MO										
TOWER ROCK STONE CO, STE GENEVIEVE, MO										
Stockpile #1										
Lab #0102	03-24-11	0.4	46.5	14.8	38.3	96.7	0.9	58.8	455	11
Stockpile #2										
Lab #0103	03-24-11	0.2	48.3	13.0	38.5	96.2	7.5	58.4	449	88
Stockpile #3										
Lab #0104	03-24-11	1.4	38.3	19.6	40.7	98.1	0.5	62.0	487	6
TRAGER LIMESTONE-NETTLETON, CHILLICOTHE, MO										
Stockpile #5										
Lab #0165	04-08-11	0.1	47.1	11.7	41.1	80.3	1.2	59.9	385	14
Lab #0304	05-16-11	0.2	50.8	11.7	37.3	77.7	1.1	57.0	354	13
Lab #0385	06-03-11	0.1	48.5	11.8	39.6	76.2	1.4	58.8	358	16
TRAGER LIMESTONE LLC-GALLATIN, CHILLOTHIE, MO										
Stockpile #1										
Lab #0014	02-17-11	0.1	53.1	9.1	37.7	71.2	1.4	56.4	321	16
Lab #0122	03-31-11	0.5	48.9	9.2	41.4	71.9	1.2	59.1	340	14
Lab #0341	05-25-11	0.1	50.1	10.6	39.2	70.6	1.0	58.1	328	16
TWIN LAKES QUARRIES INC, MOUNTAIN HOME, AR										
UEHLIN QUARRY, AMAZONIA, MO										
Stockpile #1										
Lab #0251	05-03-11	6.9	49.5	10.0	33.6	76.3	1.7	52.0	317	18
Stockpile #2										
Lab #0145	04-08-11	17.5*	40.3	8.3	33.9	75.4	1.8	49.0	0	0
Stockpile #3										
Lab #0146	04-08-11	30.6*	35.6	7.8	26.0	75.6	1.8	39.6	0	0
UNITED SUPPLIERS, ELDORA, IA										
VAN BUREN STONE c/o GIBBS TRUCKING, VAN BUREN, MO										
WADE AG PRODUCTS-MAIN OFC, LACYGNE, KS										
Stockpile #2										
Lab #0068	03-09-11	4.9	45.4	9.2	40.5	90.3	0.5	57.4	414	6
Lab #0176	04-05-11	7.3	47.3	10.2	35.2	88.3	0.8	53.1	375	9
Lab #0395	06-08-11	4.1	54.0	9.6	32.3	90.4	0.6	51.6	373	6
WADE AG PRODUCTS Q DREXEL, LACYGNE, KS										
Stockpile #1										
Lab #0129	03-28-11	7.9	53.5	10.4	28.2	85.3	1.3	47.8	326	12
Lab #0231	04-28-11	7.0	52.9	10.5	29.6	82.6	1.5	49.1	325	15
Lab #0394	06-08-11	7.3	52.3	9.5	30.9	83.7	1.4	49.7	333	14
WASHINGTON COUNTY AGGREGATES, INC., POTOSI, MO										
Stockpile #1										
Lab #0155	04-06-11	0.9	31.5	15.3	52.3	96.0	11.7	69.4	533	162
FRED WEBER INC.-AUBURN QUARRY, ELSBERRY, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Stockpile #1										
Lab #0459	06-29-11	0.1	5.8	6.2	87.9	89.5	2.3	93.1	666	43
FRED WEBER, INC - FESTUS STONE, FESTUS, MO										
FRED WEBER, INC - FOLEY QUARRY, FOLEY, MO										
FRED WEBER, INC.-NEW MELLE STONE, NEW MELLE, MO										
Stockpile #1										
Lab #0032	03-01-11	16.8*	23.7	9.4	50.1	96.0	2.8	61.7	0	0

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TABLE 1

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JANUARY 1 THROUGH JUNE 30, 2011

Distributor	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
FRED WEBER, INC.-NEW MELLE STONE, NEW MELLE, MO (Continued)										
Stockpile #1										
Lab #0183	04-18-11	3.1	16.2	17.8	62.9	93.3	2.7	77.6	579	42
Lab #0317	05-17-11	7.6	11.9	21.7	58.8	95.1	2.8	74.8	569	42
FRED WEBER INC-NORTH QUARRY, MARYLAND HEIGHTS, MO										
Stockpile #1										
Lab #0212	04-21-11	0.3	14.2	17.0	68.5	93.0	2.0	82.3	612	33
Lab #0301	05-12-11	0.1	14.2	17.3	68.4	93.0	2.1	82.3	613	35
FRED WEBER, INC. - SOUTH STONE, ST. LOUIS, MO										
WHITE ROCK QUARRIES OF LINCOLN CO, ELSBERRY, MO										
Stockpile #1										
Lab #0420	06-23-11	2.9	46.4	11.9	38.8	96.8	0.4	57.5	446	5
Lab #0455	06-29-11	2.7	46.7	12.3	38.3	96.3	0.3	57.4	442	3
WILKERSON BROS QUARRY, PARIS, MO										
Stockpile #1										
Lab #0242	05-05-11	4.1	45.9	12.2	37.8	89.2	2.1	56.6	404	24
Lab #0415	06-15-11	5.7	48.4	10.4	35.5	93.6	3.1	53.8	403	33
Lab #0427	06-23-11	4.5	46.7	11.4	37.4	92.3	2.3	55.9	413	26
Stockpile #2										
Lab #0243	05-05-11	6.9	48.8	11.4	32.9	84.4	0.8	51.9	351	8
Lab #0416	06-15-11	2.5	47.9	11.6	38.0	85.5	3.8	56.9	389	43
Lab #0428	06-23-11	4.6	46.5	10.8	38.1	92.6	3.3	56.2	416	37
WILLARD ASPHALT - #18 SLEEPER, LEBANON, MO										
WILLARD ASPHALT PAVING,- #19, LEBANON, MO										
Stockpile #1										
Lab #0074	03-15-11	0.0	0.2	1.0	98.8	89.2	11.1	99.5	710	221
Lab #0372	06-01-11	0.2	0.7	1.7	97.4	77.0	9.2	98.6	607	181
WILLARD QUARRY-SLEEPER, LEBANON, MO										
WILLARD QUARRIES- ST ROBERT, LEBANON, MO										
Stockpile #1										
Lab #0073	03-15-11	6.8	46.6	15.5	31.1	93.8	11.1	52.1	391	116
Lab #0371	06-01-11	6.2	43.5	16.4	33.9	94.8	11.2	54.6	414	122
WILLIAMSVILLE STONE CO, POPLAR BLUFF, MO										
Stockpile #1										
Lab #0004	02-15-11	0.5	32.3	13.3	53.9	94.6	11.2	70.0	529	157
Lab #0307	05-19-11	0.2	33.6	14.4	51.8	92.9	10.9	68.8	512	150

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TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM

JANUARY 1 THROUGH JUNE 30, 2011

Dealer and Producer	Date Sampled	U.S. Sieve Fraction, %				%CCE	%Mg	Fineness Factor	Pounds/Ton	
		+8	-8+40	-40+60	-60				ENM	EMg
Error! Bookmark not defined.										
ALLDREDGE FEED & SEED, STANBERRY, MO										
MK MINERALS INC., WATHENA, KS										
Lab #0462	06-17-11	0.0	0.8	2.6	96.6	88.6	0.6	98.4	697	12
DISHMAN LIME & PHOSPHATE, HELENA, MO										
CALCIUM PRODUCTS, INC., GILMORE CITY, IA										
Lab #0143	04-08-11	0.0	1.0	3.4	95.6	88.2	0.6	97.9	691	12
FARMERS PRODUCERS EXCHANGE-CONWAY, LEBANON, MO										
CONCO QUARRIES INC Q US 160, WILLARD, MO										
Lab #0173	04-06-11	0.0	16.3	17.7	66.0	96.7	0.3	80.7	624	5
FOWLER ELEVATOR INC, NEWTOWN, MO										
MK MINERALS INC., WATHENA, KS										
Lab #0181	04-14-11	0.0	1.3	3.1	95.6	88.4	0.6	97.8	692	12
FOWLER ELEVATOR -EAST, UNIONVILLE, MO										
MK MINERALS INC., WATHENA, KS										
Lab #0270	05-04-11	0.1	1.1	3.3	95.5	87.9	0.6	97.8	687	12
HEIMSOOTH AG SERVICE, CORDER, MO										
APAC-MISSOURI, INC. - MARSHALL, MARSHALL, MO										
Lab #0308	05-17-11	1.9	51.1	9.2	37.8	82.5	4.3	56.1	370	48
LOUIS HERZTING JR, FREEBURG, MO										
SPRINGFIELD UNDERGROUND, INC., SPRINGFIELD, MO										
Lab #0362	05-24-11	0.6	1.9	7.4	90.1	93.2	11.0	95.0	708	207
HOFFMAN & REED INC, TRENTON, MO										
MK MINERALS INC., WATHENA, KS										
Lab #0269	05-05-11	0.0	1.1	2.9	96.0	86.1	0.6	98.0	675	12
BILL HOLMES, ORAN, MO										
SHAWNEE STONE - CYPRESS PLANT, CYPRESS, IL										
Lab #0128	04-04-11	14.3*	48.8	9.5	27.4	91.6	1.4	45.3	0	0
LOHMAN PRODUCERS EXCHANGE, LOHMAN, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0037	02-28-11	0.1	1.7	4.0	94.2	88.1	1.4	97.0	684	27
MFA EXCHANGE, META, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0075	03-16-11	0.2	3.1	0.1	96.6	89.1	1.9	97.4	695	37
Lab #0363	05-25-11	0.1	11.5	9.7	78.7	87.1	2.0	87.4	609	42
MFA AGRI SERVICE, ALBANY, MO										
MK MINERALS INC., WATHENA, KS										
Lab #0169	04-11-11	0.0	1.0	2.7	96.3	87.5	0.6	98.2	687	12
MFA AGRI SERVICE, BETHANY, MO										
MFA AGRI SERVICE, BETHANY, MO										
Lab #0177	04-12-11	0.2	11.4	8.0	80.4	89.0	1.9	88.1	627	33
MFA AGRI SERVICE, FREEBURG, MO										
MFA AGRI SERVICE, FREEBURG, MO										
Lab #0157	04-04-11	0.2	3.0	5.5	91.3	86.7	1.9	95.4	661	36
MFA AGRI SERVICE, JEFFERSON CITY, MO										
MFA INC, COLUMBIA, MO										
Lab #0062	03-09-11	0.6	4.2	5.6	89.6	88.5	1.7	94.0	666	32
MFA AGRI SERVICE, LANCASTER, MO										
KELLY LIMESTONE LLC, KIRKSVILLE, MO										
Lab #0162	04-04-11	0.4	6.0	5.7	87.9	88.6	1.5	92.8	658	28
MFA AGRI SERVICE, MARYVILLE, MO										
MK MINERALS INC., WATHENA, KS										
Lab #0207	04-22-11	0.0	1.3	2.8	95.9	87.7	0.6	97.9	687	12
MFA AGRI SERVICE, ODESSA, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0294	05-13-11	0.0	5.1	7.8	87.1	87.8	1.1	93.1	654	20
MFA AGRI SERVICES, ROLLA, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0403	06-08-11	0.1	5.9	6.9	87.1	89.2	1.6	92.7	662	30
MFA AGRI SERVICE INC,-BULK PLANT, SALEM, MO										
MFA INC, COLUMBIA, MO										
Lab #0279	05-05-11	0.2	17.3	9.5	73.0	89.2	2.3	83.0	592	38
MFA EXCHANGE, SALEM, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0097	03-21-11	0.1	4.0	5.8	90.1	88.9	1.5	94.6	673	28
Lab #0277	05-05-11	0.9	36.8	15.1	47.2	100.8	12.2	65.5	528	160
SCAGGS ROCK-N-LIME, INC., PATTERSON, MO										
Lab #0095	03-21-11	4.5	18.4	21.1	56.0	99.1	11.4	73.3	581	167
WASHINGTON COUNTY AGGREGATES, INC., POTOSI, MO										
Lab #0096	03-21-11	0.5	39.5	15.2	44.8	102.4	11.8	63.8	523	151
Lab #0278	05-05-11	5.6	15.7	21.4	57.3	98.7	11.6	74.1	585	172

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TABLE 2

AGRICULTURAL LIMING MATERIALS SAMPLED FROM
JANUARY 1 THROUGH JUNE 30, 2011

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, SALISBURY, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0185	04-20-11	0.4	7.9	6.6	85.1	88.1	1.7	91.0	642	31
LEO O'LAUGHLIN, MACON, MO										
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Lab #0019	02-24-11	1.1	31.4	12.7	54.8	90.2	0.5	70.3	507	7
Lab #0110	03-18-11	5.6	40.4	10.9	43.1	87.0	1.1	59.7	416	13
Lab #0180	04-13-11	1.9	35.0	12.5	50.6	88.7	0.7	66.9	474	9
Lab #0298	05-12-11	0.2	30.6	15.7	53.5	91.5	0.4	70.6	517	6
Lab #0382	05-31-11	0.4	31.0	15.3	53.3	91.7	0.3	70.2	515	4
LEO O'LAUGHLIN INC, MARCELINE, MO										
SHELBY CO. STONE, SHELBYVILLE, MO										
Lab #0045	03-03-11	6.0	42.7	10.0	41.3	86.9	1.4	58.0	403	16
Lab #0084	03-16-11	6.0	42.0	10.0	42.0	87.4	1.5	58.5	409	18
CENTRAL STONE COMPANY - HUNTINGTON, HANNIBAL, MO										
Lab #0236	04-27-11	0.4	31.8	14.8	53.0	89.9	0.3	69.8	502	4
Lab #0383	05-31-11	0.2	31.6	14.8	53.4	91.2	0.3	70.2	512	4
CENTRAL STONE COMPANY - BETHEL, SHELBYVILLE, MO										
Lab #0044	03-03-11	0.7	29.4	13.1	56.8	92.2	0.5	72.0	531	7
Lab #0085	03-16-11	0.5	30.8	13.1	55.6	92.1	0.5	71.2	524	7
RICHLAND PLANT FOODS, RICHLAND, MO										
RICHLAND PLANT FOODS, RICHLAND, MO										
Lab #0369	06-01-11	0.2	7.8	8.0	84.0	88.3	1.5	90.8	641	27
RIVER VALLEY AG, HOPKINS, MO										
MK MINERALS INC., WATHENA, KS										
Lab #0208	04-25-11	0.1	5.8	4.6	89.5	87.4	0.5	93.7	655	9
SKYLINE MATERIALS, LA PLATA, MO										
SKYLINE MATERIALS - NEWARK, DECORAH, IA										
Lab #0043	03-03-11	5.6	40.2	8.3	45.9	90.4	1.5	60.9	441	18
Lab #0179	04-13-11	7.4	39.2	8.9	44.5	89.8	2.1	59.6	428	25
Lab #0297	05-12-11	6.9	39.0	8.2	45.9	90.4	1.9	60.6	438	23
Lab #0381	05-31-11	7.2	39.5	7.7	45.6	89.3	1.9	60.1	429	23
SKYLINE MATERIALS, MARCELINE, MO										
SKYLINE MATERIALS-GLASGOW, GLASGOW, MO										
Lab #0083	03-16-11	9.2	44.7	6.5	39.6	87.5	5.8	54.7	383	63
Lab #0237	04-27-11	9.5	43.7	6.7	40.1	86.0	5.8	55.0	379	64
Lab #0410	06-09-11	9.3	45.5	7.5	37.7	85.3	5.9	53.6	366	63
SUR-GRO PLANT FOOD, SHERIDAN, MO										
MK MINERALS INC., WATHENA, KS										
Lab #0347	05-25-11	0.1	4.5	4.1	91.3	86.5	1.0	94.9	657	13
SUR-GRO PLANT FOOD, WESTON, MO										
SUR-GRO PLANT FOOD, WESTON, MO										
Lab #0187	04-18-11	0.1	1.6	4.2	94.1	90.2	0.6	97.0	700	12
WEST CENTRAL AGRI SERVICE, LLC, CENTERVIEW, MO										
FRED WEBER INC.-BLUFF CITY MINERALS, ALTON, IL										
Lab #0310	05-18-11	0.3	10.0	10.7	79.0	84.3	2.1	87.9	593	37

Influence of pH on Carryover of Triketone Herbicides in Missouri No-till Corn and Soybean Rotations

Investigators: Dr. Kevin Bradley and Dr. Peter Scharf

Objectives: To determine if variations in soil pH have an influence on the carryover of the triketone herbicides Callisto (mesotrione), Impact (topramezone), and Laudis (tembotrione) to soybeans the season following treatment.

Procedures: The experiment was arranged in a split block design with 4 replications of 4 herbicide treatments and 5 pH levels. Whole plots were herbicide treatments while subplots were individual pH levels. Five soil pH levels were maintained on existing variable pH plots located at the Bradford Research and Extension Center near Columbia, Missouri. Each year, soil samples were taken in each plot to determine amounts of lime and iron sulfate needed to adjust pH levels prior to the initiation of the experiments. This resulted in the following five average pH levels: 4.5, 5.4, 6.7, 7.0, and 7.2. The soil type was a Mexico silt loam with 2.5% organic matter. The year prior to soybean, herbicide treatments applied to corn consisted of Callisto at 3 fl ozs/A, Impact at 0.75 fl ozs/A, Laudis at 3 fl ozs/A, and an untreated, weed-free check. In both years, these treatments were applied to corn that was 75 cm in height. Herbicide applications were made on June 21 in 2008 and June 17 in 2009. All herbicide treatments were applied across each of the five average soil pH levels resulting in a total of 20 treatment comparisons. In both corn and soybeans, all plots were kept weed-free throughout the experiments through applications of glyphosate and hand weeding. MorSoy 3738 and Asgrow 4005 soybeans were planted at 160,000 seed/A on June 2, 2009 and May 28, 2010, respectively. Visual soybean injury and height (2 measurements per plot) were recorded each year at 14 and 28 days after emergence. Soybeans were harvested from the two center rows in each plot with a small plot combine and yields were adjusted to 13% moisture content. All data were analyzed using the PROC MIXED procedure in SAS and means were separated using Fisher's protected LSD (0.05). Soybean heights at both the 14 and 28 day after emergence assessment intervals were significantly different between years and therefore the data were analyzed separately. There were no differences in soybean yields between years, therefore 2009 and 2010 data were pooled for analysis.

Results: Rainfall totals received in all 3 years of the experiment were significantly greater than the 30-year average, especially in April, June and July (Figure 1). This likely had a dramatic impact on the degree of triketone herbicide carryover observed in these experiments. Under drier conditions and years with a more "normal" rainfall pattern, carryover of these herbicides is more likely and the results of these experiments may have differed.

There were no differences in soybean height at either assessment timing in 2009 (data not shown). However, there were slight differences observed in 2010 and these are recorded in Tables 1 and 2. When compared to the untreated control, soybean heights 14 days after emergence in 2010 were significantly lower in response to Callisto applications made the previous season in plots with the most acidic soil pH values (Table 1). However, there were no reductions in soybean height at 14 days after emergence in response to Impact or Laudis applications made to corn the previous season, regardless of soil pH. By 28 days after emergence, however, the soybeans had recovered and there were no reductions in soybean height in response to applications of Callisto made the previous season (Table 2). Also at 28 days after emergence, soybean heights were reduced in response to Impact applications made the previous season in plots with the most acidic soil pH values (Table 2). Within all plots that had an average soil pH of 4.5, Impact applications made the previous season also reduced soybean height more than either Callisto or the untreated control.

Across all soil pH values, soybean yields in plots that received a triketone herbicide the year prior to soybean planting were not reduced compared to plots not receiving a triketone herbicide application (Table 3). However, soybean yields in the most acidic plots that received Impact were significantly lower than all other plots that received Impact.

Summary and Conclusions: In this research, none of the triketone herbicides reduced soybean yields the season following treatment compared to the untreated control, regardless of soil pH. However, results from this research also indicated that Impact applied on acidic soils (~pH 4.5) in corn has the potential to cause height and yield reductions to soybeans the season following treatment. Although some initial stunting occurred on acidic soils in response to Callisto applications made the previous season, soybeans recovered by 28 days after emergence and no yield reductions were observed. Another interesting finding from this research is that no visual symptoms of triketone herbicide carryover injury were observed in response to any treatment during either growing season (data not shown), yet some height and yield responses were observed. Above-average rainfall amounts received throughout these experiments are likely to have played a major role in the persistence of triketone herbicides in the soil and the results of these experiments.

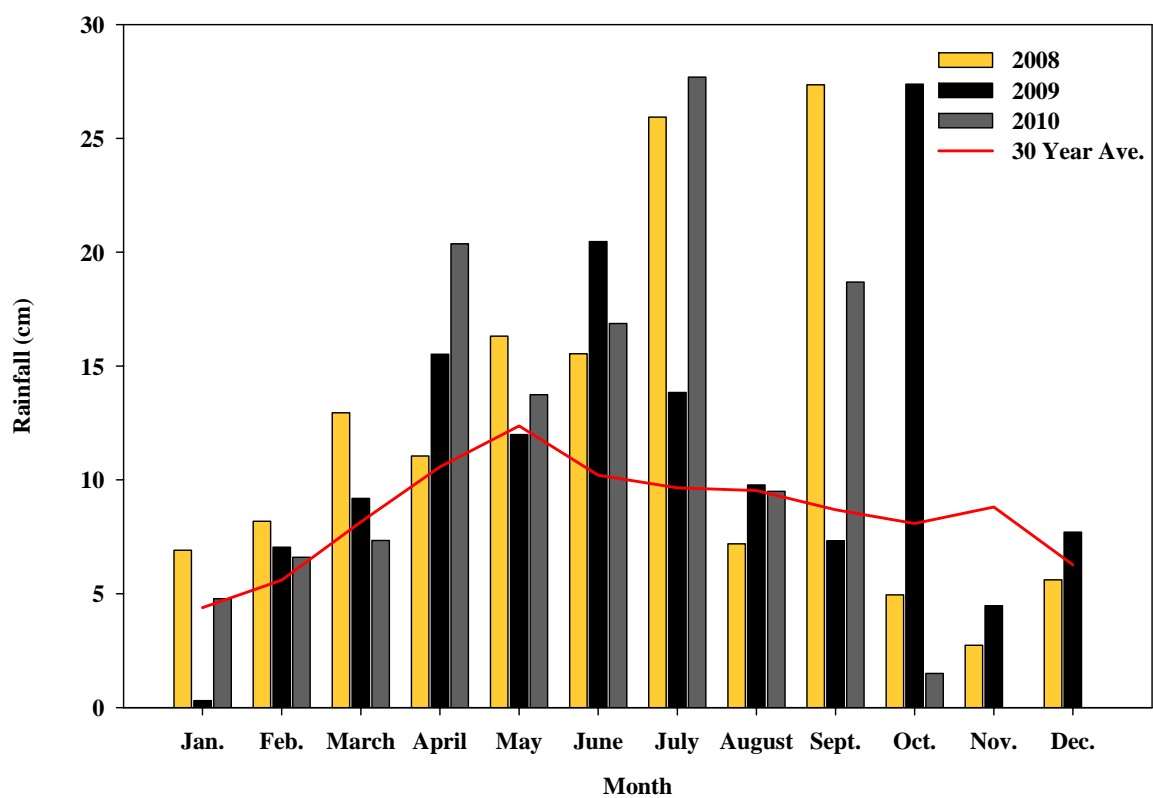


Figure 1. Monthly rainfall totals in Columbia, Missouri throughout the experiment as compared to the 30-year average.

Table 1. Soybean heights 14 days after emergence in response to soil pH and triketone herbicide applications made to the 2009 corn crop.

Treatment ^a	Average Soil pH				
	4.5	5.4	6.7	7.0	7.2
-----2010 Soybean Heights 14 Days after Emergence (cm) ^{bc} -----					
Callisto	12.9 B b	14.3 A ab	15.1 AB a	13.3 B ab	13.0 A b
Impact	14.3 AB b	14.1 A b	16.0 A a	15.2 A ab	14.0 A b
Laudis	13.2 AB a	14.6 A a	13.2 B a	13.5 B a	13.1 A a
Untreated	14.5 A a	14.1 A a	13.8 B a	13.7 AB a	14.3 A a

^a Treatments applied to 75-cm corn the growing season prior to soybean planting.

^b Means within a column followed by same uppercase letters are not different ($P \leq 0.05$).

^c Means within a row followed by same lowercase letters are not different ($P \leq 0.05$).

Table 2. Soybean heights 28 days after emergence in response to soil pH and triketone herbicide applications made to the 2009 corn crop.

Treatment ^a	Average Soil pH				
	4.5	5.4	6.7	7.0	7.2
-----2010 Soybean Heights 28 Days after Emergence (cm) ^{bc} -----					
Callisto	39.7 A a	39.7 A a	40.5 A a	39.5 A a	40.0 A a
Impact	34.3 B c	38.1 A b	40.8 A a	38.4 A ab	40.6 A ab
Laudis	36.4 AB b	40.0 A ab	41.0 A a	40.3 A a	38.9 A ab
Untreated	38.4 A b	38.7 A ab	41.1 A a	40.0 A ab	41.0 A a

^a Treatments applied to 75-cm corn the growing season prior to soybean planting.

^b Means within a column followed by same uppercase letters are not different ($P \leq 0.05$).

^c Means within a row followed by same lowercase letters are not different ($P \leq 0.05$).

Table 3. Soybean yield response to soil pH and triketone herbicide applications made the previous growing season (2009 and 2010 combined data).

Treatment ^a	Average Soil pH				
	4.5	5.4	6.7	7.0	7.2
----- Soybean Yield (Bu/A) ^{bc} -----					
Callisto	53 A a	52 B a	54 AB a	52 A a	53 AB a
Impact	51 A b	57 A a	56 A a	54 A a	56 A a
Laudis	50 A b	55 AB a	54 AB ab	53 A ab	54 AB ab
Untreated	49 A a	49 C a	52 B a	51 A a	51 B a

^a Treatments applied to 75-cm corn the growing season prior to soybean planting.

^b Means within a column followed by same uppercase letters are not different ($P \leq 0.05$).

^c Means within a row followed by same lowercase letters are not different ($P \leq 0.05$).

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