



MISSOURI FERTILIZER REPORT

Volume 45, No. 1

January, 2003

REPORT OF ANALYSIS OF FERTILIZER SAMPLES COLLECTED

July 1 through December, 2002

BAGGED FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
AMERICAN PLANT FOOD COMPANY		BRIDGETON, MO			
0420**	36.0- 6.0- 6.0	36.5	6.6	6.5	103.00
0761**	36.0- 6.0- 6.0	36.8	6.7	6.7	104.11
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0	-	103.55
BUCHHEIT INC		PERRYVILLE, MO			
0369	6.0-24.0-24.0	10.9	28.5	22.5	120.60
0365	12.0-12.0-12.0	12.9	10.3*	11.2	96.00*
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 1	-	110.34
CHOUTEAU LIME CO, INC		PRYOR, OK			
1274	10.0-20.0-10.0	8.0*	15.7*	7.5*	78.43*
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 1	-	78.43
DOMESTIC FERTILIZER, INC		PARIS, KY			
0515	15.0- 7.0- 6.0	16.2	9.0	7.6	116.00
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0	-	116.00
EASY GARDENER, INC		WACO, TX			
0231	12.0-16.0-12.0	14.6	22.1	11.3	124.56
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0	-	124.56
FREE FLOW FERTILIZER		MAUMEE, OH			
0428**	22.0- 3.0-14.0	22.8	3.0	13.6	101.88
1354**	28.0- 3.0- 3.0	28.4	3.3	3.5	102.92
1351**	29.0- 3.0- 4.0	27.1	3.4	4.1	95.74*
1507**	29.0- 3.0- 4.0	28.8	3.7	3.6	100.88
#TOTALS - NO. SAMPLES		4 - SMPLS	MISBRANDED 1	-	100.30
GRO TEC, INC		COVINGTON, GA			
1098	6.0-10.0-10.0	6.2	10.0	10.8	102.86
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0	-	102.86

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
HOWARD JOHNSON'S ENTERPRISES, INC		MILWAUKEE, WI			
0367	10.0- 6.0- 4.0	8.5*	4.8*	4.8	87.22*
1097	10.0- 6.0- 4.0	9.8	6.1	4.4	100.56
1273**	12.0-22.0-14.0	13.4	23.8	12.4*	105.85
0363	13.0-13.0-13.0	12.3	10.9*	13.4	92.00*
1270**	16.0- 4.0- 8.0	17.2	5.0	9.2	111.67
0430**	21.0- 0.0-21.0	20.7	0.0	22.3	101.11
0112**	25.0- 4.0- 8.0	24.3	6.6	10.1	108.94
1357**	26.0- 3.0- 4.0	27.0	3.2	4.2	104.19
1353**	28.0- 3.0- 4.0	28.3	3.4	4.1	102.27
#TOTALS - NO. SAMPLES		9 - SMPLS	MISBRANDED 3	-	102.19
IRONITE PRODUCTS COMPANY		SCOTTSDALE, AZ			
0560**	1.0- 0.0- 0.0	2.1	0.0	0.0	210.00
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0	-	210.00
KELLY LIME & ROCK CO, INC		KIRKSVILLE, MO			
0838**	0.0- 0.0-22.0	0.0	0.0	22.9	104.09
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0	-	104.09
LANGE-STEGMANN COMPANY		ST LOUIS, MO			
0999	6.0-24.0-24.0	6.6	23.8	24.5	101.55
1212	6.0-24.0-24.0	5.9	23.2	24.6	98.57
0090	12.0-12.0-12.0	13.9	12.4	12.8	109.00
0153	12.0-12.0-12.0	12.0	11.2	13.6	100.00
1211	13.0-13.0-13.0	13.6	11.8	13.2	98.46
0150	20.0-10.0-10.0	19.6	8.9*	10.6	96.57*
#TOTALS - NO. SAMPLES		6 - SMPLS	MISBRANDED 1	-	100.49
LESCO, INC (MARTIN'S FERRY)		STRONGVILLE, OH			
0555**	18.0- 2.0- 9.0	20.0	1.3*	11.8	111.02
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 1	-	111.02

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Issued Semi-Annually January, July by Fertilizer Control Service, Agricultural Experiment Station, University of Missouri-Columbia, 3600 E. New Haven Rd., Columbia, Missouri



BAGGED FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	

MADISON COUNTY FARM SUPPLY INC		FREDERICKTOWN, MO			
0155	6.0-24.0-24.0	9.4	24.0	22.0	105.71
0154**	12.0-12.0-12.0	12.5	12.3	14.6	107.00
0773**	12.0-12.0-12.0	8.4*	9.8*	11.9	80.50*
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED	1 -	98.67

MFA PLANT FOODS		COLUMBIA, MO			
1416**	0.0- 0.0- 0.0	0.0	0.0	0.0	100.00
0368**	6.0-24.0-24.0	6.6	23.0	24.6	99.76
0931**	6.0-24.0-24.0	5.4	23.5	24.9	98.45
0361**	13.0-13.0-13.0	12.2	14.6	10.2*	98.15
0646**	13.0-13.0-13.0	11.6*	12.7	13.0	94.77*
0772	13.0-13.0-13.0	13.5	13.5	12.8	102.77
0929**	13.0-13.0-13.0	12.6	13.0	13.4	99.38
1152**	13.0-13.0-13.0	12.9	12.8	13.5	99.85
1210	13.0-13.0-13.0	12.1	12.0	12.2	92.92*
1151**	20.0-10.0-10.0	19.3	10.3	9.8	98.57
0356	46.0- 0.0- 0.0	45.7	0.0	0.0	99.35
#TOTALS - NO. SAMPLES		11 - SMPLS	MISBRANDED	3 -	98.47

MIRACLE-GRO LAWN PRODUCTS, INC		MARYSVILLE, OH			
0516**	15.0-30.0-15.0	15.6	29.4	15.3	100.29
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED	0 -	100.29

BRUCE OAKLEY INC		BEEBE, AR			
0151	13.0-13.0-13.0	13.5	11.6*	14.1	98.92
1153	13.0-13.0-13.0	13.2	12.3	12.6	97.85
0206	33.5- 0.0- 0.0	34.0	0.0	0.0	101.49
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED	1 -	99.44

PURSELL INDUSTRIES		ST LOUIS, MO			
0209**	1.0- 1.0- 1.0	1.1	1.0	1.1	106.00
0517	10.0-10.0-10.0	15.6	12.9	11.7	137.40
0559	10.0-10.0-10.0	11.2	9.4	10.6	103.60
0366**	12.0-12.0-12.0	10.0*	9.7*	12.3	86.17*
0557	12.0-12.0-12.0	9.0*	8.9*	20.4	93.67*
0558	12.0-12.0-12.0	11.8	11.1	12.9	97.83
0362	13.0-13.0-13.0	13.4	11.3*	15.5	99.85
0556**	18.0-24.0-10.0	16.2	17.1*	11.5	83.09*
0228**	20.0-27.0- 5.0	19.9	25.4	6.6	98.18
0550**	22.0- 3.0-14.0	23.4	3.0	15.9	107.34
0552**	22.0- 3.0-14.0	23.8	3.2	13.3	105.16
0553**	22.0- 3.0-14.0	22.3	3.2	16.4	105.31
1095	24.0- 3.0-12.0	24.1	3.9	12.2	103.33
0546**	29.0- 3.0- 4.0	28.8	2.9	3.9	98.97
0421**	31.0- 2.0- 4.0	30.7	3.1	5.2	104.00
#TOTALS - NO. SAMPLES		15 - SMPLS	MISBRANDED	4 -	100.56

ROYSTER-CLARK, INC.		COLLINSVILLE, IL			
0647	13.0-13.0-13.0	13.2	13.1	12.5	100.15
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED	0 -	100.15

SCHULTZ COMPANY		BRIDGETON, MO			
0751**	5.0-10.0- 5.0	5.5	9.9	5.6	104.00
0351**	10.0-15.0-10.0	10.3	15.9	9.9	103.83
1096**	15.0-17.0-15.0	19.4	17.7	14.2	111.90
0230**	17.0-17.0-17.0	18.0	16.9	16.7	101.76
#TOTALS - NO. SAMPLES		4 - SMPLS	MISBRANDED	0 -	105.63

SCOTTS MIRACLE-GRO PRODUCTS, INC		MARYSVILLE, OH			
0232	8.0-18.0-18.0	9.7	19.1	20.1	111.00
0360**	10.0-52.0-10.0	10.9	54.8	9.9	105.45
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED	0 -	107.35

SCOTTS-SIERRA HORTICULTURAL PROD CO		MARYSVILLE, OH			
0229	19.0- 6.0-12.0	19.4	7.0	13.3	106.61
0771	19.0- 6.0-12.0	20.2	6.6	12.9	107.26
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED	0 -	106.93

J.R. SIMPLOT COMPANY-(ST LOUIS)		LATHROP, CA			
0225**	20.0- 3.0-20.0	20.1	3.2	19.6	100.30
0226**	20.0-10.0-20.0	20.0	9.4	21.4	100.25
1437**	22.0- 2.0-22.0	20.5	1.6*	25.6	99.71

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	

J.R. SIMPLOT COMPANY-(ST LOUIS)		LATHROP, CA			
0224**	24.0- 4.0-13.0	24.4	4.2	13.2	102.03
1436**	25.0- 5.0-15.0	23.2	6.0	17.6	101.33
#TOTALS - NO. SAMPLES		5 - SMPLS	MISBRANDED	1 -	100.72

SPECTRUM GROUP, DIV OF UNITED IND		ST LOUIS, MO			
0227**	20.0-20.0-20.0	20.1	21.6	21.0	104.40
0762**	20.0-20.0-20.0	20.5	20.2	20.8	102.20
0549**	22.0- 3.0-14.0	23.8	3.3	15.0	108.13
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED	0 -	104.46

T AND N INC		FORISTELL, MO			
0156	6.0-24.0-24.0	5.8	23.3	23.9	97.74
0997	6.0-24.0-24.0	6.4	24.7	23.6	102.14
0998	6.0-24.0-24.0	5.7	23.7	25.0	99.76
1213	6.0-24.0-24.0	6.5	24.4	23.4	101.43
0152	13.0-13.0-13.0	11.0*	11.7	10.4*	85.85*
0364	13.0-13.0-13.0	13.2	13.6	13.5	103.23
0996	13.0-13.0-13.0	9.2*	8.4*	16.6	79.69*
1154	13.0-13.0-13.0	12.1	11.7	10.6*	89.54*
1209	13.0-13.0-13.0	12.1	13.3	10.8*	94.77*
1271	13.0-13.0-13.0	14.4	14.4	12.4	107.69
1272	13.0-13.0-13.0	13.9	14.4	12.2	105.85
1421	13.0-13.0-13.0	12.5	14.1	13.1	102.00
1269	20.0-10.0-10.0	22.0	10.5	10.2	107.43
#TOTALS - NO. SAMPLES		13 - SMPLS	MISBRANDED	4 -	98.45

THE SCOTTS COMPANY		MARYSVILLE, OH			
0233**	6.0-12.0- 6.0	5.9	13.3	7.1	108.33
0427**	22.0- 3.0-14.0	23.5	3.7	13.6	106.25
0429**	22.0- 3.0-14.0	22.2	3.2	15.0	102.81
0547**	22.0- 3.0-14.0	22.1	3.1	14.4	101.25
0548**	22.0- 3.0-14.0	22.2	2.9	14.1	100.47
0551**	22.0- 3.0-14.0	22.2	2.8	14.8	101.25
0554	22.0- 4.0-11.0	22.2	4.2	12.5	103.65
1358	22.0- 4.0-11.0	24.0	4.0	11.1	106.51
0426**	24.0- 3.0-12.0	24.4	2.9	12.5	101.67
1356**	27.0- 3.0- 4.0	27.8	3.1	4.4	103.44
1355**	28.0- 3.0- 3.0	28.3	3.0	3.0	100.92
1350**	29.0- 3.0- 3.0	28.1	3.5	3.2	99.10
1352**	29.0- 3.0- 4.0	28.4	3.3	5.6	101.47
0423**	30.0- 3.0- 3.0	29.9	3.1	3.6	100.87
1349**	30.0- 3.0- 3.0	29.8	3.2	3.7	101.01
0422**	31.0- 3.0- 9.0	31.7	3.6	10.7	105.58
1348	36.0- 3.0- 4.0	36.8	3.8	4.4	104.39
#TOTALS - NO. SAMPLES		17 - SMPLS	MISBRANDED	0 -	102.78

VOLUNTARY PURCHASING GROUPS		BONHAM, TX			
0431	9.0-13.0- 7.0	9.8	15.7	8.2	116.08
0425**	25.0- 3.0- 6.0	24.9	5.6	6.9	109.52
0424**	28.0- 4.0- 4.0	29.2	4.6	4.6	106.18
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED	0 -	110.11

* Subject to penalty (either 10% or two units deficient from guarantee in nutrient indicated, or 3% deficient in total value).

** Sample analyzed for guaranteed secondary or micronutrients, the results are tabulated beginning page 20.

Totals from July 1, 2002.

BULK DRY FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	

MFA PLANT FOODS HAYTI, MO
 0630 46.0- 0.0- 0.0 46.4 0.0 0.0 100.87
 0755 46.0- 0.0- 0.0 46.3 0.0 0.0 100.65
 #TOTALS - NO. SAMPLES 29 - SMPLS MISBRANDED 0 - 100.29

MIDWEST AGRI-CHEMICO, INC CAPE GIRARDEAU, MO
 0018 0.0- 0.0-60.0 0.0 0.0 61.1 101.83
 0182 0.0- 0.0-60.0 0.0 0.0 59.8 99.67
 0311 0.0- 0.0-60.0 0.0 0.0 61.4 102.33
 0313 0.0- 0.0-60.0 0.0 0.0 61.6 102.67
 0322 0.0- 0.0-60.0 0.0 0.0 60.6 101.00
 0451 0.0- 0.0-60.0 0.0 0.0 60.9 101.50
 0573 0.0- 0.0-60.0 0.0 0.0 60.5 100.83
 0703 0.0- 0.0-60.0 0.0 0.0 61.3 102.17
 0705 0.0- 0.0-60.0 0.0 0.0 61.3 102.17
 0840 0.0- 0.0-60.0 0.0 0.0 60.7 101.17
 0841 0.0- 0.0-60.0 0.0 0.0 60.2 100.33
 0843 0.0- 0.0-60.0 0.0 0.0 61.1 101.83
 0844 0.0- 0.0-60.0 0.0 0.0 61.1 101.83
 0845 0.0- 0.0-60.0 0.0 0.0 61.5 102.50
 0847 0.0- 0.0-60.0 0.0 0.0 61.4 102.33
 0954 0.0- 0.0-60.0 0.0 0.0 60.8 101.33
 0957 0.0- 0.0-60.0 0.0 0.0 60.9 101.50
 1370 0.0- 0.0-60.0 0.0 0.0 60.7 101.17
 0165 18.0-46.0- 0.0 17.5 45.4 0.0 98.28
 0166 18.0-46.0- 0.0 17.7 45.4 0.0 98.59
 0218 18.0-46.0- 0.0 17.8 45.1 0.0 98.28
 0286 18.0-46.0- 0.0 17.7 45.7 0.0 99.06
 0288 18.0-46.0- 0.0 17.7 45.3 0.0 98.44
 0409 18.0-46.0- 0.0 17.6 45.6 0.0 98.75
 0529 18.0-46.0- 0.0 17.6 44.9 0.0 97.66
 0531 18.0-46.0- 0.0 18.0 46.8 0.0 101.25
 0665 18.0-46.0- 0.0 17.4 46.0 0.0 99.06
 0667 18.0-46.0- 0.0 18.0 46.0 0.0 100.00
 0814 18.0-46.0- 0.0 18.0 46.2 0.0 100.31
 0816 18.0-46.0- 0.0 18.2 46.2 0.0 100.63
 0938 18.0-46.0- 0.0 17.9 46.0 0.0 99.84
 0619** 21.0- 0.0- 0.0 20.5 0.0 0.0 97.62
 0744** 21.0- 0.0- 0.0 20.5 0.0 0.0 97.62
 0745** 21.0- 0.0- 0.0 20.6 0.0 0.0 98.10
 0983** 21.0- 0.0- 0.0 20.5 0.0 0.0 97.62
 0254 33.5- 0.0- 0.0 33.1 0.0 0.0 98.81
 0604 33.5- 0.0- 0.0 32.9 0.0 0.0 98.21
 0606 33.5- 0.0- 0.0 32.9 0.0 0.0 98.21
 1561 33.5- 0.0- 0.0 33.0 0.0 0.0 98.51
 0196 34.0- 0.0- 0.0 34.2 0.0 0.0 100.59
 0877 34.0- 0.0- 0.0 33.3 0.0 0.0 97.94
 1551 34.0- 0.0- 0.0 33.2 0.0 0.0 97.65
 0631 46.0- 0.0- 0.0 46.3 0.0 0.0 100.65
 #TOTALS - NO. SAMPLES 43 - SMPLS MISBRANDED 0 - 99.83

MIDWEST FERTILIZER, INC PAOLA, KS
 0185 0.0- 0.0-60.0 0.0 0.0 60.1 100.17
 0317 0.0- 0.0-60.0 0.0 0.0 59.6 99.33
 0577 0.0- 0.0-60.0 0.0 0.0 60.4 100.67
 0848 0.0- 0.0-60.0 0.0 0.0 61.7 102.83
 1108 0.0- 0.0-60.0 0.0 0.0 61.0 101.67
 1242 0.0- 0.0-60.0 0.0 0.0 61.0 101.67
 0190 0.0- 0.0-62.0 0.0 0.0 61.7 99.52
 0107 18.0-46.0- 0.0 17.7 46.0 0.0 99.53
 0173 18.0-46.0- 0.0 17.5 45.4 0.0 98.28
 0289 18.0-46.0- 0.0 17.7 46.0 0.0 99.53
 0537 18.0-46.0- 0.0 17.7 45.3 0.0 98.44
 0818 18.0-46.0- 0.0 17.5 45.5 0.0 98.44
 1079 18.0-46.0- 0.0 18.1 45.6 0.0 99.53
 1230 18.0-46.0- 0.0 17.7 46.3 0.0 100.00
 0137 34.0- 0.0- 0.0 33.4 0.0 0.0 98.24
 0483 34.0- 0.0- 0.0 33.6 0.0 0.0 98.82
 0614 34.0- 0.0- 0.0 33.2 0.0 0.0 97.65
 0742 34.0- 0.0- 0.0 33.3 0.0 0.0 97.94
 0878 34.0- 0.0- 0.0 33.4 0.0 0.0 98.24
 1134 34.0- 0.0- 0.0 33.3 0.0 0.0 97.94
 1135 34.0- 0.0- 0.0 33.4 0.0 0.0 98.24

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	

MIDWEST FERTILIZER, INC PAOLA, KS
 1249 34.0- 0.0- 0.0 33.5 0.0 0.0 98.53
 0149 46.0- 0.0- 0.0 46.3 0.0 0.0 100.65
 0263 46.0- 0.0- 0.0 46.4 0.0 0.0 100.87
 0756 46.0- 0.0- 0.0 46.2 0.0 0.0 100.43
 1201 46.0- 0.0- 0.0 46.3 0.0 0.0 100.65
 #TOTALS - NO. SAMPLES 26 - SMPLS MISBRANDED 0 - 99.46

MIDWESTERN BIO-AG PRODS & SERV INC BLUE MOUNDS, WI
 0432 4.0- 4.0- 5.0 4.6 4.5 5.3 111.90
 #TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 111.90

MISSISSIPPI CHEMICAL COMPANY, LP YAZOO CITY, MS
 1081 18.0-46.0- 0.0 18.5 46.1 0.0 100.94
 1082 18.0-46.0- 0.0 17.9 46.4 0.0 100.47
 0340 34.0- 0.0- 0.0 34.2 0.0 0.0 100.59
 1141 34.0- 0.0- 0.0 33.7 0.0 0.0 99.12
 #TOTALS - NO. SAMPLES 4 - SMPLS MISBRANDED 0 - 100.40

MISSISSIPPI POTASH INC. YAZOO CITY, MS
 0443 0.0- 0.0-60.0 0.0 0.0 61.1 101.83
 0713 0.0- 0.0-60.0 0.0 0.0 60.4 100.67
 0457 0.0- 0.0-61.0 0.0 0.0 62.4 102.30
 0458 0.0- 0.0-61.0 0.0 0.0 62.0 101.64
 0072 0.0- 0.0-62.0 0.0 0.0 62.1 100.16
 0328 0.0- 0.0-62.0 0.0 0.0 61.6 99.35
 0730 0.0- 0.0-62.0 0.0 0.0 61.5 99.19
 0731 0.0- 0.0-62.0 0.0 0.0 61.6 99.35
 0861 0.0- 0.0-62.0 0.0 0.0 62.1 100.16
 0965 0.0- 0.0-62.0 0.0 0.0 62.6 100.97
 0966 0.0- 0.0-62.0 0.0 0.0 62.6 100.97
 0967 0.0- 0.0-62.0 0.0 0.0 62.8 101.29
 0968 0.0- 0.0-62.0 0.0 0.0 62.8 101.29
 1382 0.0- 0.0-62.0 0.0 0.0 62.9 101.45
 1570 0.0- 0.0-62.0 0.0 0.0 62.1 100.16
 #TOTALS - NO. SAMPLES 15 - SMPLS MISBRANDED 0 - 100.71

MORGAN FERTILIZER, INC WYACONDA, MO
 0733 0.0- 0.0-62.3 0.0 0.0 62.3 100.00
 #TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 100.00

NODAWAY FERTILIZER & GRAIN INC RAVENWOOD, MO
 0454 0.0- 0.0-60.0 0.0 0.0 59.4 99.00
 #TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.00

OAKLEY FERTILIZER, INC N LITTLE ROCK, AR
 0309 0.0- 0.0-60.0 0.0 0.0 61.1 101.83
 0574 0.0- 0.0-60.0 0.0 0.0 59.7 99.50
 0575 0.0- 0.0-60.0 0.0 0.0 61.4 102.33
 0576 0.0- 0.0-60.0 0.0 0.0 61.3 102.17
 0011 18.0-46.0- 0.0 18.1 46.2 0.0 100.47
 0530 18.0-46.0- 0.0 17.8 46.3 0.0 100.16
 0532 18.0-46.0- 0.0 18.1 45.9 0.0 100.00
 0347 33.5- 0.0- 0.0 33.5 0.0 0.0 100.00
 0603 33.5- 0.0- 0.0 33.4 0.0 0.0 99.70
 0605 33.5- 0.0- 0.0 33.3 0.0 0.0 99.40
 0025 34.0- 0.0- 0.0 33.6 0.0 0.0 98.82
 #TOTALS - NO. SAMPLES 11 - SMPLS MISBRANDED 0 - 100.32

OAKLEY MISSOURI, INC CARUTHERSVILLE, MO
 0181 0.0- 0.0-60.0 0.0 0.0 60.1 100.17
 0235 0.0- 0.0-60.0 0.0 0.0 60.6 101.00
 0175 0.0-46.0- 0.0 0.0 46.4 0.0 100.87
 0164 18.0-46.0- 0.0 18.1 44.9 0.0 98.44
 0205 33.5- 0.0- 0.0 33.4 0.0 0.0 99.70
 #TOTALS - NO. SAMPLES 5 - SMPLS MISBRANDED 0 - 99.82

PCS SALES(USA) INC NORTHBROOK, IL
 0442 0.0- 0.0-60.0 0.0 0.0 61.6 102.67
 0444 0.0- 0.0-60.0 0.0 0.0 61.7 102.83
 0712 0.0- 0.0-60.0 0.0 0.0 60.7 101.17
 1440 0.0- 0.0-60.0 0.0 0.0 60.7 101.17

BULK DRY FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
ROYSTER-CLARK, INC		NEW FRANKLIN, MO			
0200	34.0- 0.0- 0.0	33.1	0.0	0.0	97.35
0201	34.0- 0.0- 0.0	33.2	0.0	0.0	97.65
0884	34.0- 0.0- 0.0	33.3	0.0	0.0	97.94
0885	34.0- 0.0- 0.0	33.2	0.0	0.0	97.65
0886	34.0- 0.0- 0.0	33.2	0.0	0.0	97.65
1045	34.0- 0.0- 0.0	33.0	0.0	0.0	97.06
1047	34.0- 0.0- 0.0	33.2	0.0	0.0	97.65
1048	34.0- 0.0- 0.0	33.2	0.0	0.0	97.65
1142	34.0- 0.0- 0.0	33.2	0.0	0.0	97.65
1185	34.0- 0.0- 0.0	34.0	0.0	0.0	100.00
1186	34.0- 0.0- 0.0	33.2	0.0	0.0	97.65
1191	34.0- 0.0- 0.0	34.1	0.0	0.0	100.29
1386	34.0- 0.0- 0.0	34.0	0.0	0.0	100.00
1387	34.0- 0.0- 0.0	33.2	0.0	0.0	97.65
1389	34.0- 0.0- 0.0	33.3	0.0	0.0	97.94
0084	46.0- 0.0- 0.0	46.0	0.0	0.0	100.00
0636	46.0- 0.0- 0.0	46.3	0.0	0.0	100.65
0989	46.0- 0.0- 0.0	46.1	0.0	0.0	100.22
1146	46.0- 0.0- 0.0	45.6	0.0	0.0	99.13
1149	46.0- 0.0- 0.0	46.4	0.0	0.0	100.87
1202	46.0- 0.0- 0.0	46.2	0.0	0.0	100.43
1261	46.0- 0.0- 0.0	46.1	0.0	0.0	100.22
1268	46.0- 0.0- 0.0	46.5	0.0	0.0	101.09
1461	46.0- 0.0- 0.0	46.0	0.0	0.0	100.00
#TOTALS - NO. SAMPLES		57	- SMPLS MISBRANDED	0	- 99.62

SOUTHEAST COOPERATIVE SERVICE CO		MOREHOUSE, MO			
0935	18.0-46.0- 0.0	18.1	46.1	0.0	100.31
0984**	21.0- 0.0- 0.0	20.7	0.0	0.0	98.57
#TOTALS - NO. SAMPLES		2	- SMPLS MISBRANDED	0	- 99.88

SUR-GRO PLANT FOOD		PLATTSBURG, MO			
0475	0.0- 0.0-62.4	0.0	0.0	62.3	99.84
1126	0.0- 0.0-62.4	0.0	0.0	61.9	99.20
0406	18.0-46.0- 0.0	17.2	46.1	0.0	98.91
1083	18.0-46.0- 0.0	17.6	45.8	0.0	99.06
0487	34.0- 0.0- 0.0	34.9	0.0	0.0	102.65
1137	34.0- 0.0- 0.0	34.1	0.0	0.0	100.29
0355	46.0- 0.0- 0.0	46.4	0.0	0.0	100.87
#TOTALS - NO. SAMPLES		7	- SMPLS MISBRANDED	0	- 99.93

TNT GENERAL CONTRACTING, INC		KAHOKA, MO			
1023**	1.0- 0.5- 0.5	1.2	0.4*	0.1*	94.29*
#TOTALS - NO. SAMPLES		1	- SMPLS MISBRANDED	1	- 94.29

UAP FERTILIZER		PEKIN, IL			
0118	0.0- 0.0-60.0	0.0	0.0	60.7	101.17
0439	0.0- 0.0-60.0	0.0	0.0	60.6	101.00
0580	0.0- 0.0-60.0	0.0	0.0	60.1	100.17
0716	0.0- 0.0-60.0	0.0	0.0	60.9	101.50
1106	0.0- 0.0-60.0	0.0	0.0	61.4	102.33
0386	18.0-46.0- 0.0	18.0	45.3	0.0	98.91
0389	18.0-46.0- 0.0	17.7	45.4	0.0	98.59
0689	18.0-46.0- 0.0	17.7	46.2	0.0	99.84
0693	18.0-46.0- 0.0	17.7	46.3	0.0	100.00
0823	18.0-46.0- 0.0	17.8	45.6	0.0	99.06
1017	18.0-46.0- 0.0	17.8	46.6	0.0	100.63
1077	18.0-46.0- 0.0	17.6	46.1	0.0	99.53
1399	33.5- 0.0- 0.0	33.9	0.0	0.0	101.19
#TOTALS - NO. SAMPLES		13	- SMPLS MISBRANDED	0	- 100.00

UAP FERTILIZER		ST JOSEPH, MO			
1110	0.0- 0.0-60.0	0.0	0.0	60.2	100.33
1111	0.0- 0.0-60.0	0.0	0.0	60.1	100.17
0071	0.0- 0.0-62.0	0.0	0.0	62.6	100.97
1448	0.0- 0.0-62.0	0.0	0.0	62.5	100.81
0030	11.0-52.0- 0.0	12.0	52.4	0.0	102.22
0159	11.0-52.0- 0.0	12.0	52.5	0.0	102.38
0383	11.0-52.0- 0.0	11.2	51.6	0.0	99.68
1068	11.0-52.0- 0.0	11.3	52.3	0.0	100.95
1069	11.0-52.0- 0.0	10.9	51.2	0.0	98.57

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
UAP FERTILIZER		ST JOSEPH, MO			
1431	11.0-52.0- 0.0	11.3	52.1	0.0	100.63
#TOTALS - NO. SAMPLES		10	- SMPLS MISBRANDED	0	- 100.70
UNITED SUPPLIERS, INC		ELDORA, IA			
1516	0.0- 0.0-60.0	0.0	0.0	61.6	102.67
#TOTALS - NO. SAMPLES		1	- SMPLS MISBRANDED	0	- 102.67
UNITED SUPPLIERS, INC		ST JOSEPH, MO			
0119	0.0- 0.0-60.0	0.0	0.0	60.4	100.67
0958	0.0- 0.0-60.0	0.0	0.0	60.9	101.50
0959	0.0- 0.0-60.0	0.0	0.0	60.7	101.17
1112	0.0- 0.0-60.0	0.0	0.0	60.0	100.00
1364	0.0- 0.0-60.0	0.0	0.0	60.4	100.67
1374	0.0- 0.0-62.0	0.0	0.0	62.8	101.29
1526	0.0- 0.0-62.0	0.0	0.0	62.9	101.45
0932	11.0-52.0- 0.0	12.1	53.1	0.0	103.49
0933	11.0-52.0- 0.0	11.2	52.8	0.0	101.59
1070	11.0-52.0- 0.0	11.0	52.1	0.0	100.16
1071	11.0-52.0- 0.0	11.1	52.2	0.0	100.48
1229	11.0-52.0- 0.0	11.1	52.5	0.0	100.95
1327	11.0-52.0- 0.0	11.0	52.4	0.0	100.63
1481	11.0-52.0- 0.0	11.0	51.0	0.0	98.41
1482	11.0-52.0- 0.0	11.0	52.2	0.0	100.32
0008	18.0-46.0- 0.0	17.8	46.2	0.0	100.00
0277	18.0-46.0- 0.0	17.9	45.8	0.0	99.53
1557	34.0- 0.0- 0.0	34.4	0.0	0.0	101.18
0892	46.0- 0.0- 0.0	46.0	0.0	0.0	100.00
#TOTALS - NO. SAMPLES		19	- SMPLS MISBRANDED	0	- 100.64

* Subject to penalty (either 10% or two units deficient from guarantee in nutrient indicated, or 3% deficient in total value).

** Sample analyzed for guaranteed secondary or micronutrients, the results are tabulated beginning page 20.

Totals from July 1, 2002.

BULK BLEND FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
AG COOP SERVICES INC		BOONVILLE, MO			
0796	7.8-20.0-35.0	7.4	19.4	35.4	98.23
0789**	8.5-21.7-29.3	8.0	20.6	30.4	97.66
0790**	8.5-21.7-29.3	7.9	20.5	31.2	98.10
1464	10.3-26.4-26.4	10.2	26.4	26.9	100.30
1465	10.3-26.4-26.4	10.4	26.4	26.6	100.40
#TOTALS - NO. SAMPLES	5 - SMPLS MISBRANDED 0 -				98.99
AG COOP SERVICES INC		LA MONTE, MO			
1306	5.3-25.4-31.6	5.7	26.8	31.1	103.33
1307	5.3-25.4-31.6	5.5	25.8	32.1	101.83
#TOTALS - NO. SAMPLES	2 - SMPLS MISBRANDED 0 -				102.58
AG COOP SERVICES INC		OTTERVILLE, MO			
0266	12.5-19.0-19.0	12.7	20.0	19.1	103.05
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				103.05
AG COOP SERVICES INC		SEDALIA, MO			
1161**	5.6-26.7-26.7	6.1	27.3	26.0	101.64
1158**	8.4-21.5-30.2	8.3	21.3	30.3	99.44
#TOTALS - NO. SAMPLES	2 - SMPLS MISBRANDED 0 -				100.55
AG DISTRIBUTORS		DEXTER, MO			
0641	10.0-20.0-30.5	9.4	19.4	32.6	99.67
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				99.67
AG DISTRIBUTORS		DUDLEY, MO			
0898	11.5-19.5-29.0	11.9	19.6	28.6	100.66
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				100.66
AG-LAND, INC		BROOKFIELD, MO			
1314	4.5-21.5-36.0	4.4	21.2	37.4	100.68
1315	4.5-21.5-36.0	4.7	22.5	35.5	102.16
#TOTALS - NO. SAMPLES	2 - SMPLS MISBRANDED 0 -				101.42
AGRISERVICES OF BRUNSWICK, LLC		BRUNSWICK, MO			
1221	4.6-22.0-35.1	4.6	21.7	35.5	99.77
1222	4.6-22.0-35.1	4.6	21.7	35.4	99.66
#TOTALS - NO. SAMPLES	2 - SMPLS MISBRANDED 0 -				99.71
AGRO DISTRIBUTION, LLC		SIKESTON, MO			
0908**	9.9-18.0-28.0	8.9*	16.8	31.6	99.05
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 1 -				99.05
BACKES & TOELKE AGRI PRODUCTS INC		NEW HAVEN, MO			
0792**	8.5-21.9-29.5	8.5	21.4	29.4	98.78
1385	24.4- 6.1-12.4	23.4	7.2	14.2	102.72
#TOTALS - NO. SAMPLES	2 - SMPLS MISBRANDED 0 -				100.54
BALL FERTILIZER C/O SMITH BROS		KAHOKA, MO			
1008	4.4-20.8-36.0	4.3	20.6	36.9	100.35
1157	9.0-23.0-30.0	8.1	21.2	32.8	97.23
#TOTALS - NO. SAMPLES	2 - SMPLS MISBRANDED 0 -				98.72
BARTLETT & COMPANY, L.P.		HIGGINSVILLE, MO			
0265	18.0-10.8-28.8	17.0	11.7	28.6	99.54
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				99.54
BICHSEL SPREADING SERVICE		LEONARD, MO			
1155**	6.7-17.5-35.0	6.7	17.5	34.6	99.52
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				99.52
BOLIVAR FARMERS EXCHANGE		BOLIVAR, MO			
0658	7.2-18.3-36.7	6.9	18.8	36.0	99.66
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				99.66
BOLLINGER COUNTY CO-OP		MARBLE HILL, MO			
0338	14.0-14.0-14.0	13.6	14.0	14.5	99.57
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				99.57
BROWN'S AGRI SERVICE, INC		ROCK PORT, MO			
1303	5.9-28.2-28.2	5.9	28.3	29.3	101.35

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
BROWN'S AGRI SERVICE, INC		ROCK PORT, MO			
1299	6.7-31.9-23.9	6.9	32.5	23.9	101.58
#TOTALS - NO. SAMPLES	2 - SMPLS MISBRANDED 0 -				101.46
BRUMBAUGH INC		TAYLOR, MO			
0657	7.7-19.8-34.0	7.7	20.5	34.5	102.13
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				102.13
BUTTERFIELD & ASSOCIATES GRAIN, INC		MEADVILLE, MO			
1104	0.0-23.5-28.5	0.0	24.6	29.9	104.77
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				104.77
CAMERON COOP ELEVATOR ASSN		CAMERON, MO			
0875	19.0-16.0-16.0	18.4	15.9	17.0	99.53
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				99.53
CENTRAL ELEVATOR, INC (OLNEY)		SILEX, MO			
0991	19.3-19.3-19.3	19.6	18.0	19.9	98.55
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				98.55
CENTRAL MISSOURI AGRISERVICE LLC		BLACKBURN, MO			
0804	4.5-21.2-37.0	4.3	19.7	38.8	98.19
0801**	5.0-23.8-28.8	4.8	22.5	30.9	98.96
0802**	5.0-23.7-28.7	4.9	22.3	30.2	98.26
0522	6.0-28.4-28.4	5.8	27.5	29.2	98.56
#TOTALS - NO. SAMPLES	4 - SMPLS MISBRANDED 0 -				98.49
CENTRAL MISSOURI AGRI SERVICE LLC		MALTA BEND, MO			
0775	10.4-26.5-26.5	10.0	23.0*	29.1	94.82*
0774**	11.3-28.8-20.5	11.1	26.5*	22.2	96.72*
1061**	11.3-29.0-20.9	10.9	28.3	21.8	98.72
#TOTALS - NO. SAMPLES	3 - SMPLS MISBRANDED 2 -				96.76
CENTRAL MISSOURI AGRISERVICE LLC		MARSHALL, MO			
1473	7.2-18.4-36.7	7.2	18.3	36.9	100.00
1467	9.1-23.4-29.8	8.9	23.4	30.5	100.32
1466	10.2-26.1-26.2	10.0	25.9	27.3	100.30
#TOTALS - NO. SAMPLES	3 - SMPLS MISBRANDED 0 -				100.21
CENTRAL MISSOURI AGRISERVICE LLC		SLATER, MO			
1511	0.0-23.0-31.2	0.0	23.9	31.4	102.59
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				102.59
CO-OP SERVICE CENTER INC		JACKSON, MO			
0566	0.0-23.0-30.0	0.0	24.6	29.3	103.29
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				103.29
CO-OP SERVICE CENTER INC -STE GENEV		JACKSON, MO			
0783	9.0-23.0-30.0	9.2	22.8	30.8	100.85
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				100.85
CONSUMERS OIL COMPANY, INC		MARYVILLE, MO			
1301	6.0-28.0-26.0	6.1	28.4	28.0	103.19
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				103.19
COOP ASSN #2 - MARTHASVILLE		WASHINGTON, MO			
0763	19.0-16.0-23.0	18.6	14.8	24.0	97.63
#TOTALS - NO. SAMPLES	1 - SMPLS MISBRANDED 0 -				97.63
CROP PRODUCTION SERVICES		WESTBORO, MO			
1317**	4.2-19.9-35.4	3.9	18.0	37.2	96.89*
1480**	4.5-21.0- 7.0	4.7	22.2	7.2	105.17
1302	5.9-28.2-28.2	5.6	26.0*	31.0	97.72
#TOTALS - NO. SAMPLES	3 - SMPLS MISBRANDED 2 -				99.24
CROP PRODUCTION SERVICES		PARIS, MO			
1312**	4.8-22.7-30.2	5.0	24.1	30.0	103.52
0970	9.3-18.9-28.4	8.2*	20.9	29.6	103.54
#TOTALS - NO. SAMPLES	2 - SMPLS MISBRANDED 1 -				103.52

BULK BLEND FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
DEBRUCE AG SERVICE, INC		DEARBORN, MO			
1062	10.0-26.0-26.0	9.7	24.8	28.3	99.29
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.29
DEERFIELD GRAIN		DEERFIELD, MO			
1214	9.0-23.0-30.0	9.1	23.3	29.9	100.74
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		100.74
DELTA GROWERS ASSOCIATION		CHARLESTON, MO			
0951	0.0-29.5-17.5	0.0	31.6	17.1	104.97
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		104.97
DELTA GROWERS ASSOC-EAST PRAIRIE		CHARLESTON, MO			
0518	9.0-24.0-24.0	9.1	23.0	25.5	99.67
0512	17.0-17.0-23.0	16.6	16.0	25.5	99.67
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		99.67
DELTA GROWERS ASSOCIATION-MATTHEWS		MATTHEWS, MO			
0995	8.5-17.0-34.5	7.7	15.6	37.9	98.83
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.83
DELTA GROWERS ASSOCIATION-KEWANEE		KEWANEE, MO			
0568	0.0-15.0-40.0	0.0	16.4	39.9	103.86
0514	5.0-12.0-13.5	6.9	13.2	15.7	117.68
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		109.44
DELTA SUPPLY INC		DELTA, MO			
0869	6.0-10.0-24.0	6.2	9.8	26.9	105.18
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		105.18
DISSEN FARM SUPPLY		NEW HAVEN, MO			
0777	10.0-26.0-25.0	10.4	26.1	26.4	102.47
0870	12.0-24.0-22.0	12.6	24.3	23.1	103.09
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		102.77
G C DUNN & SONS, INC		MIDDLETOWN, MO			
0653	9.2-23.7-30.4	8.8	23.0	30.8	98.13
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.13
ED HELMREICH FERTILIZER & FARM		BOONVILLE, MO			
1309	5.0-24.5-32.0	5.2	24.8	33.5	102.75
0779	9.5-24.5-28.5	8.9	22.2*	31.4	96.99*
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 1 -		99.78
EOLIA FERTILIZER		EOLIA, MO			
1277	9.6-24.8-27.5	9.3	24.2	29.4	100.10
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		100.10
EX-CEL MILLING, INC		SYRACUSE, MO			
1425**	5.0-13.5-41.5	5.1	12.8	42.8	100.13
1002	9.5-25.0-26.5	9.6	24.2	28.9	101.05
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		100.63
FARMERS COOPERATIVE SERVICES, INC		EWING, MO			
1027	4.0-20.0-32.0	3.8	20.4	34.8	104.00
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		104.00
FARMERS COOPERATIVE SERVICES, INC		NEW LONDON, MO			
1412**	0.0-25.0-25.0	0.0	23.6	28.9	101.47
1236	0.0-26.0-26.0	0.0	24.5	29.8	101.03
0895	15.0-22.0-22.0	14.1	21.6	24.9	100.31
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED 0 -		100.88
FARMERS COOPERATIVE SERVICES, INC		PALMYRA, MO			
1285	9.0-24.0-27.0	9.7	25.4	27.5	105.05
0077	19.0-15.0-15.0	16.5*	13.9	21.5	99.16
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 1 -		102.27
FARMERS ELEVATOR & EXCHANGE CO		MONROE CITY, MO			
1284	9.0-23.0-31.0	8.7	22.6	32.6	100.21
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		100.21

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
FARMERS ELEVATOR AND SUPPLY CO.		CLINTON, MO			
0799	5.9-15.1-20.2	6.2	15.0	21.5	102.73
0800	5.9-15.1-20.2	6.6	16.3	21.8	108.68
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		105.70
GARD CROP SERVICE		PALMYRA, MO			
1011	3.6-17.3-40.0	3.6	16.6	40.3	98.66
1426**	4.1-19.7-33.5	4.0	17.7*	35.5	97.29
1424	5.2-24.9-31.2	5.2	23.1	33.0	98.03
1300**	6.4-16.4-35.3	5.5*	14.3*	38.3	96.29*
#TOTALS - NO. SAMPLES		4 - SMPLS	MISBRANDED 2 -		97.58
GLASGOW MFA		GLASGOW, MO			
1405**	3.5-17.5-35.0	3.9	17.6	36.4	103.12
0925	5.5-27.5-27.5	5.9	27.3	28.6	101.60
0926	5.5-27.5-27.5	5.8	26.2	29.4	99.89
0909**	9.0-24.0-24.5	9.4	24.8	25.5	103.76
0598**	12.5-16.0-24.5	12.6	14.7	24.8	97.42
0597**	12.5-16.5-25.0	12.7	15.7	25.2	98.80
#TOTALS - NO. SAMPLES		6 - SMPLS	MISBRANDED 0 -		100.78
GOUGH CROP SERVICE/UAP RICHTER		PERRY, MO			
1217	8.0-21.0-32.0	7.1*	18.7*	36.7	98.11
0904	11.0-28.0-22.0	10.9	28.2	23.5	101.70
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 1 -		100.00
TOM GRAY FARM SERVICE INC.		FAIRDEALING, MO			
0337	3.5- 3.5- 3.5	4.2	3.7	4.4	115.43
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		115.43
GREAT WESTERN AG		BUTLER, MO			
0917	7.0-18.0-36.0	5.6*	14.0*	41.0	93.26*
0971	10.0-20.0-30.0	9.3	17.6*	32.8	96.22*
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 2 -		94.77
GREGORY FARMS		EOLIA, MO			
0919	7.0-17.9-35.9	6.4	16.6	39.3	99.53
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.53
GUIER CHEMICAL & FERTILIZER		HOUSTONIA, MO			
1278	9.5-24.3-29.1	8.3*	21.8*	33.1	96.48*
1279	9.5-24.3-29.1	9.2	24.4	29.7	100.21
1000**	10.3-26.4-26.4	9.7	24.8	27.0	96.19*
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED 2 -		97.61
HANNIBAL BOARD OF PUBLIC WORKS		HANNIBAL, MO			
1410	0.5- 0.5- 0.0	1.0	1.2	0.0	220.00
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		220.00
HEETCO FARM CENTER		LA BELLE, MO			
1160	7.0-18.0-36.0	6.8	17.1	37.0	98.60
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.60
HEIMAN INC		ROCKVILLE, MO			
0915	8.0-22.0-30.0	8.6	21.9	32.2	103.56
0520	9.0-23.0-30.0	8.8	22.4	30.4	98.72
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		101.08
HEIMAN AGRI-SERVICES, INC		BUTLER, MO			
0797	7.0-18.0-18.0	7.4	18.6	21.2	107.65
0798	7.0-18.0-18.0	7.8	19.0	20.2	108.53
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		108.08
HEIMSOTH AGRI SERVICE INC		CORDER, MO			
0924	5.6-14.4-41.2	3.3*	15.7	41.6	98.03
1477	5.2-24.6-31.6	5.4	25.4	30.6	101.10
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 1 -		99.65
HELENA CHEMICAL CO		NEW MADRID, MO			
0901**	4.5- 0.0-24.0	4.8	0.0	27.3	111.82
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		111.82

BULK BLEND FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
HENSON FARM SUPPLY		WILLIAMSVILLE, MO			
0249	23.0-11.0-11.0	22.8	12.3	12.2	104.30
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		104.30
HILLER CUSTOM SPREADING		HOUSTONIA, MO			
1321**	2.0- 9.5-25.0	1.9	9.5	26.4	102.50
1322**	2.0- 9.5-25.0	2.0	9.8	25.8	102.92
1427**	2.0- 9.5-25.0	1.9	9.1	25.5	98.96
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED 0 -		101.45
HUMPHREY FEED & SEED		MONTICELLO, MO			
1318	4.0-18.0-37.0	4.2	19.0	38.1	104.32
1468	9.0-26.0-25.0	10.2	25.6	25.8	102.53
1042	17.5-17.5-17.5	16.3	19.4	18.8	103.09
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED 0 -		103.26
JAMIESON FERTILIZER & FARMS		BOWLING GREEN, MO			
1237	0.0-23.0-31.0	0.0	23.8	31.4	102.60
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		102.60
JONES BROS. AGRI SERVICE, LLC		LA MONTE, MO			
1004	8.8-22.0-31.0	8.4	22.2	32.4	101.08
0872	15.0-18.5-22.5	14.2	19.1	23.7	100.89
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		100.98
KELSO MILLING CO		SCOTT CITY, MO			
0268	5.5-15.0-40.0	5.9	15.2	40.4	101.98
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		101.98
LINCOLN COUNTY FARMERS COOP, INC		TROY, MO			
1295	8.0-22.0-30.0	8.5	22.5	31.4	103.78
0992	14.1-23.4-23.4	14.2	22.2	24.1	98.48
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		101.00
LOWRY CITY FARMERS EXCHANGE/		LOWRY CITY, MO			
0765	13.9-13.9-13.9	14.6	14.5	15.0	105.32
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		105.32
MARTHASVILLE AG CENTER, INC		MARTHASVILLE, MO			
0793	8.3-21.2-33.3	7.8	20.3	35.2	99.02
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.02
MEDOC VALLEY, INC		ORONOGO, MO			
0912	9.0-23.0-30.5	8.1	21.5	32.0	96.51*
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 1 -		96.51
MESMER FERTILIZER		BETHEL, MO			
1162	5.0-24.0-33.0	4.6	21.6*	36.5	97.69
1478**	5.0-28.0-25.0	6.1	28.1	25.7	103.41
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 1 -		100.54
METZ GRAIN - HARWOOD		HARWOOD, MO			
1568	8.3-21.2-32.3	8.1	21.8	32.8	101.42
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		101.42
METZ GRAIN - JASPER		JASPER, MO			
0787	9.0-23.0-30.0	9.2	23.2	29.4	100.21
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		100.21
METZ GRAIN-METZ		METZ, MO			
0519	9.0-23.0-30.0	9.0	22.7	29.4	98.72
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.72
METZ GRAIN - SHELDON		SHELDON, MO			
0599	13.3-19.1-24.9	13.5	18.3	24.4	98.10
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.10
MFA AGRI SERVICES		ADVANCE, MO			
0567	0.0-23.0-30.0	0.0	23.8	30.4	102.63
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		102.63

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
MFA AGRI SERVICES - ALMA		HIGGINSVILLE, MO			
0776	10.1-26.0-26.0	10.2	24.4	27.6	98.57
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.57
MFA AGRI SERVICES		BENTON, MO			
0511	13.0- 0.0-42.5	12.7	0.0	44.0	101.31
0513**	16.0- 6.5-31.0	15.3	6.3	32.0	98.95
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		100.06
MFA AGRI SERVICES		BERNIE, MO			
0642**	9.5-13.0-29.5	9.2	12.2	31.9	100.27
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		100.27
MFA AGRI SERVICES		BOONVILLE, MO			
0370**	7.4-19.0-32.3	6.8	17.8	34.3	98.12
1290**	8.4-21.5-28.0	7.6	19.5	30.8	96.81*
1291**	8.4-21.5-28.0	8.4	22.4	27.9	101.94
0788**	8.5-21.7-29.3	7.8	19.7	33.3	98.44
1463	10.3-26.4-26.4	9.6	24.8	29.3	98.30
#TOTALS - NO. SAMPLES		5 - SMPLS	MISBRANDED 1 -		98.71
MFA AGRI SERVICES		BROOKFIELD, MO			
1060	10.0-20.0-30.0	9.7	18.4	32.6	98.67
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.67
MFA AGRI SERVICES		BURLINGTON JCT, MO			
1276	10.0-26.0-25.9	9.6	25.3	28.1	100.00
1275	11.5-30.0-20.0	11.6	30.4	21.3	102.23
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		101.14
MFA AGRI SERVICES		CANTON, MO			
1029	0.0-11.6-46.6	0.0	12.2	45.9	100.72
1308**	5.1-13.1-40.7	5.0	13.6	40.3	100.52
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		100.61
MFA AGRI SERVICES		CENTRALIA, MO			
0894	15.2-22.9-22.9	15.0	22.6	23.1	99.19
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.19
MFA AGRI SERVICES		CHAFFEE, MO			
0505	3.3- 4.5-19.5	4.3	5.1	20.0	110.54
0769**	8.5-23.0-26.0	8.9	21.6	27.2	99.10
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		102.33
MFA AGRI SERVICES		COLE CAMP, MO			
0654	9.0-23.0-31.0	8.6	22.5	32.3	99.47
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.47
MFA AGRI SERVICES		CONCEPTION JCT, MO			
1479**	4.7-22.0-27.0	4.7	21.3	28.8	100.50
1475	5.9-28.0-28.0	6.0	28.0	28.0	100.21
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		100.34
MFA AGRI SERVICES		ELSBERRY, MO			
1240	7.2-18.5-37.0	6.6	17.4	39.0	98.42
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.42
MFA AGRI SERVICES		ESSEX, MO			
0768	9.0- 0.0-21.0	10.8	0.0	23.4	115.38
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		115.38
MFA AGRI SERVICES		FAIRFAX, MO			
0371**	2.0-11.5-41.0	2.6	11.5	40.0	100.29
1305	5.4-25.8-25.8	5.5	25.0	27.1	99.89
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		100.06
MFA AGRI SERVICES		GUILFORD, MO			
1319**	3.9-18.6-32.6	4.0	18.5	32.9	100.39
1384**	5.0-23.4-28.0	5.0	23.3	28.7	100.59
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		100.49

BULK BLEND FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
MFA AGRI SERVICES HANNIBAL, MO					
1224**	3.1- 7.8-44.4	2.8	7.8	44.9	99.85
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.85					
MFA AGRI SERVICES HIGGINSVILLE, MO					
0927	5.1-24.1-32.1	5.1	24.0	32.0	99.67
0734**	6.9-23.0-27.6	6.8	23.0	27.9	100.11
0735**	6.9-23.0-27.6	6.9	23.4	27.6	100.92
0920	6.5-30.9-24.3	6.6	31.1	24.5	100.81
0914	8.3- 9.5-31.0	8.6	9.8	29.7	99.85
1215**	8.0-23.9-23.8	8.3	23.8	23.6	100.23
#TOTALS - NO. SAMPLES 6 - SMPLS MISBRANDED 0 - 100.28					
MFA AGRI SERVICES IANTHA, MO					
0910	9.0-23.0-30.5	8.7	22.7	30.2	98.41
0911	9.0-23.0-30.5	8.4	22.4	31.5	98.52
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 98.46					
MFA AGRI SERVICES IRWIN, MO					
0913	9.0-23.0-30.0	8.7	22.1	31.6	99.15
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.15					
MFA AGRI SERVICES JACKSON, MO					
0737	17.5-17.5-17.5	17.6	17.1	18.0	99.89
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.89					
MFA AGRI SERVICES JEFFERSON CITY, MO					
0994	10.9-21.9-29.2	10.7	21.1	30.0	98.73
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 98.73					
MFA AGRI SERVICES KAHOKA, MO					
1164	4.8-22.7-35.0	4.3*	20.7	38.0	97.78
1476	5.3-25.4-31.8	5.4	24.9	32.5	99.89
1007	5.9-28.3-28.3	5.3*	24.0*	33.4	95.14*
#TOTALS - NO. SAMPLES 3 - SMPLS MISBRANDED 2 - 97.57					
MFA AGRI SERVICES KIRKSVILLE, MO					
1065	5.0-13.5-43.5	4.7	12.1*	46.2	99.13
1066	5.0-13.5-43.5	4.7	12.0*	46.1	98.76
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 2 - 98.94					
MFA AGRI SERVICES LABELLE, MO					
1156	9.0-23.1-30.8	8.2	21.3	34.0	97.89
0766	12.8-12.8-34.2	12.2	12.4	35.1	98.71
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 98.28					
MFA AGRI SERVICES LADDONIA, MO					
0928	5.0-23.7-34.2	4.7	21.8	36.0	97.16
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 97.16					
MFA AGRI SERVICES LOUISIANA, MO					
1026	0.0-30.6-20.8	0.0	31.0	21.8	102.20
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 102.20					
MFA AGRI SERVICES MARTINSBURG, MO					
1063	5.3-25.4-31.8	4.8	22.5*	35.2	96.35*
1423	5.9-28.3-28.3	5.8	26.2*	30.1	97.31
0791	8.5-21.8-32.7	8.4	21.1	33.0	98.61
#TOTALS - NO. SAMPLES 3 - SMPLS MISBRANDED 2 - 97.42					
MFA AGRI SERVICES MARYVILLE, MO					
0805	3.9-10.0-43.5	4.2	10.7	44.1	103.65
1310**	5.0-26.0-26.0	5.5	25.7	28.2	102.95
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 103.26					
MFA AGRI SERVICES MEMPHIS, MO					
1028	0.0-19.6-35.7	0.0	21.8	34.2	103.87
1512	0.0-19.7-35.5	0.0	18.8	37.2	99.87
1297	7.2-18.5-37.1	6.9	18.1	38.1	99.55
#TOTALS - NO. SAMPLES 3 - SMPLS MISBRANDED 0 - 101.00					

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
MFA AGRI SERVICES MEXICO, MO					
0897	13.6-20.4-27.2	13.4	20.6	27.4	100.21
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 100.21					
MFA AGRI SERVICES MONTGOMERY CITY, MO					
1313	4.6-21.7-36.3	4.8	22.6	35.8	101.91
0778	9.6-24.7-28.8	9.3	23.4	30.4	98.36
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 100.05					
MFA AGRI SERVICES ODESSA, MO					
0029**	2.8- 7.3-14.5	3.2	8.4	15.6	111.82
1218	7.3-34.7-19.8	7.8	36.2	18.2	102.31
0358	10.7-21.5-26.9	10.7	19.9	29.4	99.23
0359	10.7-21.5-26.9	10.5	20.1	29.0	98.80
1205	16.5-24.8-16.5	14.9	28.6	15.8	103.73
#TOTALS - NO. SAMPLES 5 - SMPLS MISBRANDED 0 - 101.99					
MFA AGRI SERVICES PATTONSBURG, MO					
1452	13.0-13.0-26.5	13.8	12.4	28.2	102.68
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 102.68					
MFA AGRI SERVICES ROLLA, MO					
0339	17.8-17.8-17.8	17.6	17.2	16.8	97.08
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 97.08					
MFA AGRI SERVICES STE GENEVIEVE, MO					
0780	9.0-23.0-30.5	8.8	22.3	31.4	99.05
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.05					
MFA AGRI SERVICES SALISBURY, MO					
0806**	3.4-16.3-37.7	3.7	16.0	37.8	100.13
0269	4.5-21.4-36.5	4.3	19.4	38.4	97.17
0767	12.6-30.3-20.2	12.0	28.4	22.9	97.83
#TOTALS - NO. SAMPLES 3 - SMPLS MISBRANDED 0 - 98.26					
MFA AGRI SERVICES SEDALIA, MO					
1040	12.3-18.4-24.6	12.1	19.7	24.6	102.56
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 102.56					
MFA AGRI SERVICES SHELBYNA, MO					
1064**	5.3-25.3-30.4	5.4	25.0	29.8	98.91
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 98.91					
MFA AGRI SERVICES THOMPSON, MO					
0922	6.0-28.4-28.5	6.0	28.1	28.4	99.28
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.28					
MFA AGRI SERVICES TIPTON, MO					
1241	4.4-23.9-29.9	4.3	23.7	31.6	101.27
1219	6.5-16.6-39.8	6.0	15.6	41.6	98.60
0700	7.1-24.9-28.5	6.8	25.3	28.9	100.65
0701	7.1-24.9-28.5	6.8	25.6	28.7	101.08
1239	9.0-23.1-30.8	8.0*	20.6*	35.2	97.26
1001	9.7-24.9-28.5	9.6	24.5	29.1	99.59
#TOTALS - NO. SAMPLES 6 - SMPLS MISBRANDED 1 - 99.72					
MFA AGRI SERVICES VANDALIA, MO					
1304	5.8-27.4-29.7	5.7	26.7	31.4	100.10
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 100.10					
MFA AGRI SERVICES WINDSOR, MO					
0640	12.9-21.6-25.9	12.6	21.3	26.3	99.16
0639	15.1-25.2-20.2	14.6	24.7	21.4	99.21
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 99.18					
MFA AGRI SERVICES-EAST VANDALIA, MO					
0923	6.0-28.4-28.5	5.9	27.4	29.2	98.46
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 98.46					
MFA EXCHANGE - META META, MO					
0176	23.2-11.6-11.6	22.1	12.4	12.1	99.88
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.88					

BULK BLEND FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
MID MISSOURI AGRI SERVICES		CONCORDIA, MO			
1010**	3.7-17.8-35.7	3.7	16.3	36.8	97.59
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		97.59
MO VALLEY AGRI SERVICE		ROCK PORT, MO			
1320**	3.0-14.0-14.0	3.2	14.7	16.7	109.38
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		109.38
MONROE COUNTY SERVICE CO		PARIS, MO			
0918	7.0-20.0-33.0	7.6	19.1	35.2	101.84
0652	10.0-26.0-26.0	9.8	25.2	26.9	98.88
1422	10.0-26.0-26.0	9.1	23.1*	29.8	96.12*
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED 1 -		98.83
MONTROSE AGRI SERVICE		MONTROSE, MO			
0876	23.7-11.8-11.8	22.2	10.0*	16.2	97.34
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 1 -		97.34
MRM AG SERVICE INC		EAST PRAIRIE, MO			
0644	8.0- 6.0-15.5	10.0	7.4	17.8	120.92
0643**	9.5- 9.0-36.0	9.9	9.8	36.8	104.38
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		110.55
MYRTLE FERTILIZER INC		MYRTLE, MO			
0480	6.5- 9.0- 9.0	7.6	8.1	11.1	106.25
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		106.25
NODAWAY-HOLT FERTILIZER INC		SKIDMORE, MO			
1453	22.0-11.0-11.0	21.0	12.0	11.9	101.17
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		101.17
NORTHEAST MO COOPERATIVE SERV INC		EDINA, MO			
1005	7.5-19.5-34.0	7.5	19.6	34.5	100.80
1294	8.0-21.0-32.0	8.2	21.5	32.9	102.56
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		101.68
OLD MONROE ELEVATOR		OLD MONROE, MO			
0747	9.0- 9.0- 9.0	9.0	8.9	8.8	99.11
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.11
PILOT GROVE COOPERATIVE ELEVATOR		PILOT GROVE, MO			
1474**	6.5-16.5-36.0	6.9	17.7	35.1	102.80
1471**	7.5-19.0-33.5	6.8	17.4	35.3	96.76*
1472**	7.5-19.0-33.5	6.7*	17.2	36.4	97.34
1470	7.5-20.0-35.0	8.2	21.1	33.6	102.44
0794**	8.0-21.0-31.0	8.1	20.1	32.0	99.33
0795**	8.0-21.0-31.0	8.4	20.8	31.1	100.56
1282	9.0-23.0-30.5	9.0	23.1	31.4	101.16
1280**	9.5-24.5-26.5	9.7	25.4	26.9	102.75
1281**	9.5-24.5-26.5	8.8	22.8	30.0	98.62
0873	15.5-20.5-20.5	14.0	19.6	23.4	97.95
0764	19.0-14.0-24.0	19.4	13.5	24.5	100.33
#TOTALS - NO. SAMPLES		11 - SMPLS	MISBRANDED 2 -		100.01
PRAIRIE HOME COOP		PRAIRIE HOME, MO			
1216	8.0-21.5-32.5	8.4	21.3	32.3	100.22
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		100.22
PRODUCE EXCHANGE		GOLDEN CITY, MO			
0786	9.0-23.0-31.0	8.9	22.4	30.9	98.42
0874	17.9-17.9-17.9	17.0	18.2	18.3	99.11
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		98.75
PRODUCERS GRAIN COMPANY/FERT. DIV.		NEVADA, MO			
1238	0.0-19.8-34.0	0.0	20.3	34.3	101.77
0893	19.3-19.3-19.3	18.4	19.6	21.1	100.62
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		101.11
PRODUCERS GRAIN CO.-EL DORADO SPRGS		ELDORADO SRPINGS, MO			
0738	17.7-17.7-17.7	18.3	16.6	17.3	98.42
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		98.42

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
PROFESSIONAL AG SERVICE, INC		LATHROP, MO			
0907	10.0-26.0-26.0	9.6	24.9	28.3	99.29
0972	12.0-24.0-24.0	11.2	23.1	27.5	100.10
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		99.69
QMI FERTILIZER & GRAIN, INC		PARMA, MO			
0900	7.5- 7.5-15.5	8.4	8.4	18.5	114.51
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		114.51
QUINN FARM SUPPLY, INC		MONROE CITY, MO			
1289	8.5-22.0-29.5	8.8	23.4	30.9	105.30
1041	14.0-21.0-21.0	14.3	22.1	20.6	102.64
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		103.96
RAY-CARROLL COUNTY GRAIN GROWERS		BRUNSWICK, MO			
1296	7.4-19.1-36.2	6.9	18.4	37.8	99.10
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.10
RAY-CARROLL COUNTY GRAIN GROWERS		NORBORNE, MO			
1293**	8.2-20.6-29.8	6.9*	17.8*	33.8	95.19*
1286**	8.9-22.4-26.8	7.4*	19.2*	33.9	97.43
0896	14.1-23.5-23.5	14.2	24.0	23.2	100.91
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED 2 -		97.96
RAY-CARROLL COUNTY GRAIN GROWERS		CARROLLTON, MO			
0649	10.5-26.4-26.4	10.1	25.3	27.5	98.10
0650	10.5-26.4-26.4	9.9	25.2	27.8	97.80
0651	10.5-26.4-26.4	10.5	27.4	25.4	101.00
1206	14.1-23.5-23.5	12.6*	22.3	27.0	98.07
1207	14.1-23.5-23.5	13.2	22.7	26.1	99.19
1208	14.1-23.5-23.5	13.6	24.1	23.6	100.30
#TOTALS - NO. SAMPLES		6 - SMPLS	MISBRANDED 1 -		99.07
RAY-CARROLL COUNTY GRAIN GROWERS		HARDIN, MO			
1469	8.8-23.1-30.8	8.9	22.8	31.2	100.00
0902**	16.0-41.2- 0.0	16.9	41.0	0.0	101.22
0975	19.8-15.8-15.8	18.4	16.8	17.2	100.69
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED 0 -		100.67
RHINELAND GRAIN - JONESBURG GRAIN		JONESBURG, MO			
1003	9.0-23.0-30.0	8.7	22.7	30.7	99.47
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.47
RICKETT'S FARM SERVICE		SHELBY, MO			
0655	8.9-23.2-30.9	8.5	22.2	32.8	99.05
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		99.05
J.P. ROSS COTTON CO, INC		ESSEX, MO			
0308**	7.0-18.5-28.0	6.9	19.4	28.8	103.04
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 0 -		103.04
ROYSTER-CLARK, INC		BOWLING GREEN, MO			
0916**	8.0-21.8-27.2	8.3	21.8	27.9	101.50
1292	8.2-21.0-33.6	7.9	20.7	34.3	99.46
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		100.44
ROYSTER-CLARK AGRIBUSINESS, INC		CLARENCE, MO			
0736	10.0-20.0-31.0	9.3	19.3	32.6	98.68
1359**	15.0-13.0-22.0	14.0	12.0	25.4	99.23
#TOTALS - NO. SAMPLES		2 - SMPLS	MISBRANDED 0 -		98.93
SALISBURY AG CENTER, INC		SALISBURY, MO			
1323**	2.0-12.0-39.5	2.5	11.5	42.4	104.30
1324**	2.0-12.0-39.5	2.6	12.0	40.8	103.70
1298**	7.0-19.0-33.5	6.9	18.4	35.6	100.82
#TOTALS - NO. SAMPLES		3 - SMPLS	MISBRANDED 0 -		102.76
SERVICE AND SUPPLY COOPERATIVE, INC		BELLFLOWER, MO			
0803**	5.0-27.0-27.0	5.6	24.8*	30.7	100.55
#TOTALS - NO. SAMPLES		1 - SMPLS	MISBRANDED 1 -		100.55

BULK BLEND FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
SERVICE AND SUPPLY COOPERATIVE, INC BOWLING GREEN, MO					
1316	4.5-23.0-33.0	5.1	23.4	34.3	103.75
0521	7.5-20.0-34.0	7.3	18.8	36.0	99.10
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 101.41					
SERVICE AND SUPPLY COOPERATIVE, INC NEW FLORENCE, MO					
1067	4.6-23.6-32.7	5.1	23.6	33.2	101.68
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 101.68					
SERVICE AND SUPPLY COOPERATIVE, INC VANDALIA, MO					
0899	9.6-24.8-24.8	10.3	24.4	26.6	102.56
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 102.56					
SHAWNEETOWN FEED & SEED CO. JACKSON, MO					
0993	12.0-12.0-12.0	12.2	12.2	14.9	106.17
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 106.17					
SMITH AGRI SERVICES LLC COLUMBIA, MO					
0905	10.4-28.0-22.0	10.7	26.9	25.7	102.13
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 102.13					
SMITH BROS. FARM SUPPLY, INC. WILLIAMSTOWN, MO					
1165**	4.7-22.4-29.9	4.7	21.8	30.8	99.64
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.64					
SMITH BROS. FARM SUPPLY, INC WYACONDA, MO					
1166	4.0-19.0-38.0	3.8	18.2	39.8	99.76
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.76					
SOUTHEAST COOPERATIVE SERVICE CO ADVANCE, MO					
0836	0.0-26.0-26.0	0.0	27.5	25.4	103.08
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 103.08					
SOUTHEAST COOPERATIVE SERVICE CO DEXTER, MO					
0770	6.5-15.0-23.5	7.2	15.5	25.3	106.32
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 106.32					
SOUTHEAST COOP SERVICE CO-MESSLER ADVANCE, MO					
0906	10.0-25.5-26.6	10.0	25.9	26.8	101.02
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 101.02					
SOUTHEAST COOPERATIVE SERVICE CO ORAN, MO					
0645**	7.5-10.5-37.0	4.9*	10.9	44.9	104.79
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 1 - 104.79					
SOUTHEAST COOPERATIVE SERVICE CO PUXICO, MO					
0952	0.0-18.0-36.0	0.0	27.5	25.8*	112.22
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 1 - 112.22					
ST CHARLES COUNTY COOPERATIVE CO ST CHARLES, MO					
0837	0.0-26.0-26.0	0.0	26.4	27.2	102.56
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 102.56					
ST JOSEPH AGRI SERVICES, INC ST JOSEPH, MO					
1127	12.0-16.5-24.5	13.9	17.0	23.6	104.79
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 104.79					
STOCKTON FARMERS EXCHANGE STOCKTON, MO					
0785	9.0-23.0-30.5	9.0	21.6	30.6	97.14
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 97.14					
STOKES-MAYBERRY GIN CO, INC MALDEN, MO					
0953	3.0- 9.5-19.0	4.0	9.8	21.8	112.27
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 112.27					
SUR-GRO PLANT FOOD APPLETON CITY, MO					
0973	12.2-24.4-24.4	12.4	25.6	23.3	101.74
0974	14.5-21.8-21.8	15.1	22.6	20.2	101.27
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 101.51					

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
SUR-GRO PLANT FOOD BURLINGTON JCT, MO					
1283	9.0-22.0-33.0	8.2	21.2	33.8	97.47
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 97.47					
SUR-GRO PLANT FOOD FOREST CITY, MO					
0903**	11.5- 0.0-27.0	11.7	0.0	27.4	101.60
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 101.60					
T AND N INC FORISTELL, MO					
0003	12.0-12.0-12.0	11.0	11.6	10.7*	93.17*
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 1 - 93.17					
UAP/MIDSOUTH - BENTON BENTON, MO					
0267	12.0-30.0-20.0	12.4	30.7	19.5	101.63
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 101.63					

BULK BLEND FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
UAP/MIDSOUTH					
SIKESTON, MO					
0656**	8.0-22.0-29.0	8.2	20.9	32.7	102.13
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 102.13					
UAP/RICHTER					
BOWLING GREEN, MO					
1220	5.7-14.6-38.5	5.3	13.6	40.2	98.61
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 98.61					
UAP/RICHTER					
KAHOKA, MO					
1006	6.0-15.0-40.0	5.4	13.9	41.8	98.05
1159**	8.0-20.0-31.0	7.3	19.3	33.8	100.00
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 99.05					
VANDUSER GIN CO INC					
VANDUSER, MO					
0871	13.0- 3.0-33.5	14.6	3.0	33.0	104.12
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 104.12					
WEST CENTRAL AGRISERVICES, LLC					
BUTLER, MO					
0781	9.0-23.0-30.0	9.2	23.4	29.4	100.64
0782	9.0-23.0-30.0	9.2	24.1	28.7	101.38
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 101.01					
WEST CENTRAL AGRISERVICES, LLC					
CENTERVIEW, MO					
1009	4.1-19.4-38.8	4.6	19.3	38.3	100.35
0921**	6.1-29.1-22.1	5.8	26.8*	24.9	97.41
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 1 - 98.82					
WEST CENTRAL AGRISERVICES, LLC					
HARRISONVILLE, MO					
1287	8.9-22.7-30.3	8.5	22.1	32.0	99.68
1288	8.9-22.7-30.3	8.3	21.9	32.8	99.68
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 99.68					
WEST CENTRAL AGRISERVICES, LLC					
HOLDEN, MO					
1223	4.6-21.7-34.8	4.7	22.0	34.6	100.69
0135	13.7-13.7-27.4	14.0	12.2*	28.2	98.05
0136	13.7-13.7-27.4	14.4	15.6	25.3*	103.77
#TOTALS - NO. SAMPLES 3 - SMPLS MISBRANDED 2 - 100.83					
WEST CENTRAL AGRI SERVICES LLC					
RICH HILL, MO					
0595	12.0-24.0-24.0	12.0	22.9	24.4	98.13
0596	12.0-24.0-24.0	11.8	23.9	24.3	99.69
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 98.90					
WILLIAMS FERTILIZER SERVICE					
OREGON, MO					
1163	5.0-28.0-28.0	6.5	28.3	28.9	104.79
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 104.79					
SHAWNEETOWN FEED&SEED CO-FREIDHEIM					
JACKSON, MO					
0784	9.0-23.0-30.0	8.0*	19.9*	33.9	95.43*
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 1 - 95.43					

* Subject to penalty (either 10% or two units deficient from guarantee in nutrient indicated, or 3% deficient in total value).

** Sample analyzed for guaranteed secondary or micronutrients, the results are tabulated beginning page 20.

Totals from July 1, 2002.

LIQUID FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	
AG DISTRIBUTORS					
KENNETT, MO					
0987	6.0- 6.0-12.0	6.4	6.2	12.0	103.33
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 103.33					
AGRISERVICES OF BRUNSWICK, LLC					
BRUNSWICK, MO					
1418	2.2- 6.6-11.0	2.3	7.4	10.4	104.20
1419	2.2- 6.6-11.0	2.2	7.3	10.7	103.85
1194	3.0- 9.0-27.0	3.2	9.8	25.1	100.20
0002**	7.0-18.0- 6.0	7.0	17.4	5.9	97.68
1197**	8.2- 9.8-13.1	8.2	10.1	13.4	101.83
1198**	8.2- 9.9-13.2	8.3	10.2	13.3	101.82
1199**	8.2- 9.9-13.2	8.3	10.2	13.2	101.62
0001	32.0- 0.0- 0.0	32.1	0.0	0.0	100.31
#TOTALS - NO. SAMPLES 8 - SMPLS MISBRANDED 0 - 101.03					
ANNADA ELEVATOR CO, INC					
ANNADA, MO					
1256**	3.9-10.9-27.4	3.6	10.8	27.6	98.95
0624	13.2- 9.9-19.8	13.8	9.0	14.7*	91.36*
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 1 - 94.87					
BETHMANN FARM					
BELLE, MO					
1053	4.0-10.0-10.0	4.8	10.4	10.5	107.63
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 107.63					
BARTLETT & COMPANY, L.P.					
WAVERLY, MO					
0887	2.6- 7.9-15.7	2.8	7.8	15.2	99.18
0888	2.6- 7.9-15.7	2.9	7.8	15.7	101.09
1192	2.7- 8.2-13.7	3.2	8.6	13.4	104.23
1193	2.7- 8.2-13.7	3.0	8.5	13.2	101.97
1195	3.0- 9.0-27.0	3.2	9.3	26.2	100.39
1417**	5.9-15.4-11.4	5.9	15.1	11.7	99.44
1200	10.0-30.0- 0.0	10.4	30.7	0.0	102.75
#TOTALS - NO. SAMPLES 7 - SMPLS MISBRANDED 0 - 101.33					
CENTRAL MISSOURI AGRISERVICE LLC					
BLACKBURN, MO					
1458**	4.0- 9.9-14.8	4.1	9.6	14.4	98.12
1459**	4.0- 9.9-14.8	4.3	9.4	14.4	98.12
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 98.12					
GRANITE CITY TERMINAL LLC					
GRANITE CITY, IL					
1420	28.0- 0.0- 0.0	28.3	0.0	0.0	101.07
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 101.07					
HYDRO MERSCHMANN LLC (MONTROSE)					
WEST POINT, IA					
0623	3.0-10.0-30.0	2.9	9.8	30.0	98.93
0985	4.0-12.0-24.0	4.6	11.8	24.3	101.96
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 100.44					
LITER FERTILIZER & CHEMICAL INC					
CENTER, MO					
1196	3.3-11.2-23.5	3.4	11.3	24.4	102.48
1404	28.0- 0.0- 0.0	27.8	0.0	0.0	99.29
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 100.82					
MFA AGRI SERVICES					
CARYTOWN, MO					
1403	28.0- 0.0- 4.0	25.7*	0.0	0.2*	86.00*
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 1 - 86.00					
MFA LIQUID PLANT - CENTRALIA					
CENTRALIA, MO					
1402	3.0- 9.0-27.0	3.0	8.9	26.7	99.02
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 99.02					
MFA AGRI SERVICES					
LEVASY, MO					
1257**	5.4-12.8-17.9	5.5	12.8	17.9	100.37
1258**	5.4-12.8-17.9	5.6	12.7	17.8	100.18
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 100.27					
MFA AGRI SERVICES					
MEXICO, MO					
0889	4.9-14.9-18.1	4.9	14.4	18.4	98.79
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 98.79					

LIQUID FERTILIZER

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	

MID MISSOURI AGRI SERVICES
CONCORDIA, MO
1143 2.8- 8.4-10.1 4.7 8.3 9.7 109.85
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 109.85

OLD MONROE ELEVATOR
OLD MONROE, MO
0626 2.4- 5.3-12.0 2.7 5.7 11.9 104.74
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 104.74

RICKETTS FARM SERVICE INC
SALISBURY, MO
0748** 4.1- 8.1-24.4 4.1 8.2 24.3 100.20
0749 10.0-30.0- 0.0 10.5 29.6 0.0 100.25
0986 10.0-30.0- 0.0 10.0 29.6 0.0 99.00
#TOTALS - NO. SAMPLES 3 - SMPLS MISBRANDED 0 - 99.76

ROYSTER-CLARK, INC
BOWLING GREEN, MO
0506 25.0- 0.0- 0.0 2.0* 0.0 0.0 8.00*
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 1 - 8.00

ROYSTER-CLARK, INC.
COLLINSVILLE, IL
0144 32.0- 0.0- 0.0 31.9 0.0 0.0 99.69
0629 32.0- 0.0- 0.0 32.5 0.0 0.0 101.56
#TOTALS - NO. SAMPLES 2 - SMPLS MISBRANDED 0 - 100.62

TERRA
SIOUX CITY, IA
0255 32.0- 0.0- 0.0 32.5 0.0 0.0 101.56
0256 32.0- 0.0- 0.0 32.3 0.0 0.0 100.94
0628 32.0- 0.0- 0.0 32.0 0.0 0.0 100.00
0752 32.0- 0.0- 0.0 32.2 0.0 0.0 100.63
0753 32.0- 0.0- 0.0 32.5 0.0 0.0 101.56
0754 32.0- 0.0- 0.0 32.7 0.0 0.0 102.19
1260 32.0- 0.0- 0.0 32.4 0.0 0.0 101.25
#TOTALS - NO. SAMPLES 7 - SMPLS MISBRANDED 0 - 101.16

UAP FERTILIZER
ALEXANDRIA, MO
0352 32.0- 0.0- 0.0 32.5 0.0 0.0 101.56
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 101.56

UAP FERTILIZER
ST JOSEPH, MO
0627 28.0- 0.0- 0.0 28.4 0.0 0.0 101.43
1259 28.0- 0.0- 0.0 28.0 0.0 0.0 100.00
0210 32.0- 0.0- 0.0 32.1 0.0 0.0 100.31
1054 32.0- 0.0- 0.0 32.0 0.0 0.0 100.00
#TOTALS - NO. SAMPLES 4 - SMPLS MISBRANDED 0 - 100.41

VEHIGE ENTERPRISES, INC
FORISTELL, MO
0625 13.3-13.3-13.3 13.7 12.8 13.9 100.60
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 100.60

YOCUM SERVICE, INC
MOUND CITY, MO
1255 4.0-13.0-13.0 4.5 13.8 13.0 105.53
#TOTALS - NO. SAMPLES 1 - SMPLS MISBRANDED 0 - 105.53

MANUFACTURER		% FOUND			% Relative Value
No.	Grade	Nitrogen	P ₂ O ₅	Potash	

* Subject to penalty (either 10% or two units deficient from guarantee in nutrient indicated, or 3% deficient in total value).

** Sample analyzed for guaranteed secondary or micronutrients, the results are tabulated beginning page 20.

Totals from July 1, 2002.

SECONDARY AND MICRONUTRIENTS IN FERTILIZER

Lab No. 02F#	Grade	% Ca		% Mg		%S		% B		% Cl		% Cu		% Fe		% Mn		% Zn	
		G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F
AG COOP SERVICES INC., BOONVILLE, MO																			
02F-0789	8.5-21.7-29.3	....	....	....	....	4.7	6.2	....	....	....	....	....	....	....	....	....	....	....	....
02F-0790	8.5-21.7-29.3	....	....	....	....	4.7	5.5	....	....	....	....	....	....	....	....	....	....	....	....
AG COOP SERVICES INC., SEDALIA, MO																			
02F-1158	8.4-21.5-30.2	....	....	....	....	3.8	4.6	....	....	....	....	....	....	....	....	....	....	....	....
02F-1161	5.6-26.7-26.7	....	....	....	....	4.8	6.2	....	....	....	....	....	....	....	....	....	....	....	....
AGRILIANCE LLC, ST. PAUL, MN																			
02F-0083	21.0-0.0-0.0	....	....	....	....	24.0	24.6	....	....	....	....	....	....	....	....	....	....	....	....
AGRISERVICES OF BRUNSWICK, LLC. WEST, BRUNSWICK, MO																			
02F-0002	7.0-18.0-6.0	....	....	....	....	2.0	2.6	....	....	....	....	....	....	....	....	....	....	....	.50 .55
02F-0142	21.0-0.0-0.0	....	....	....	....	24.0	24.6	....	....	....	....	....	....	....	....	....	....	....	....
02F-1197	8.2-9.8-13.1	....	....	....	....	1.6	1.8	....	....	....	....	....	....	....	....	....	....	....	....
02F-1198	8.2-9.9-13.2	....	....	....	....	1.6	2.0	....	....	....	....	....	....	....	....	....	....	....	....
02F-1199	8.2-9.9-13.2	....	....	....	....	1.6	2.0	....	....	....	....	....	....	....	....	....	....	....	....
02F-1311	4.8-22.6-32.5	....	....	....	....	2.7	3.4	....	....	....	....	....	....	....	....	....	....	....	....
AGRO DISTRIBUTION, LLC., SIKESTON, MO																			
02F-0908	9.9-18.0-28.0	....	....	....	....	3.0	3.6	....	....	....	....	....	....	....	....	....	....	....	....
AMERICAN PLANT FOOD COMPANY, BRIDGETON, MO																			
02F-0420	36.0-6.0-6.0	....	....	....	....	....	....	....	....	....	....	....	....	.33	.21*	....	....	....	....
02F-0761	36.0-6.0-6.0	....	....	....	....	....	....	....	....	....	....	....	....	.33	.32	....	....	....	....
AMERICAN PLANT FOOD CORPORATION, GALENA PARK, TX																			
02F-0982	21.0-0.0-0.0	....	....	....	....	24.0	24.9	....	....	....	....	....	....	....	....	....	....	....	....
ANNADA ELEVATOR CO, INC., ANNADA, MO																			
02F-1256	3.9-10.9-27.4	....	....	....	....	1.09	0.9	....	....	....	....	....	....	....	....	....	....	....	....
BACKES & TOELKE AGRI PRODUCTS INC., NEW HAVEN, MO																			
02F-0792	8.5-21.9-29.5	....	....	....	....	4.7	5.0	....	....	....	....	....	....	....	....	....	....	....	....
BARTLETT & COMPANY L.P., WAVERLY, MO																			
02F-1417	5.9-15.4-11.4	....	....	....	....	1.6	2.2	....	....	....	....	....	....	....	....	....	....	....	....
BICHSEL SPREADING SERVICE, LEONARD, MO																			
02F-1155	6.7-17.5-35.0	....	....	....	....	3.2	4.0	....	....	....	....	....	....	....	....	....	....	....	....
CALCIUM PRODUCTS INC., GILMORE CITY, IA																			
02F-0143	0.0-0.0-0.0	21.0	22.0	....	....	17.0	17.2	....	....	....	....	....	....	....	....	....	....	....	....
CENTRAL MISSOURI AGRISERVICE LLC., BLACKBURN, MO																			
02F-0801	5.0-23.8-28.8	....	....	....	....	6.5	7.8	....	....	....	....	....	....	....	....	....	....	....	....
02F-0802	5.0-23.7-28.7	....	....	....	....	6.9	7.9	....	....	....	....	....	....	....	....	....	....	....	....
02F-1458	4.0-9.9-14.8	....	....	....	....	1.6	1.4	....	....	....	....	....	....	....	....	....	....	....	....
02F-1459	4.0-9.9-14.8	....	....	....	....	1.6	1.9	....	....	....	....	....	....	....	....	....	....	....	....
CENTRAL MISSOURI AGRISERVICE LLC., MALTA BEND, MO																			
02F-0774	11.3-28.8-20.5	....	....	....	....	4.1	5.0	....	....	....	....	....	....	....	....	....	....	....	....
02F-1061	11.3-29.0-20.9	....	....	....	....	3.2	4.6	....	....	....	....	....	....	....	....	....	....	....	....
CROP PRODUCTION SERVICES, PARIS, MO																			
02F-1312	4.8-22.7-30.2	....	....	....	....	3.7	5.2	....	....	....	....	....	....	....	....	....	....	....	.70 .83
CROP PRODUCTION SERVICES, WESTBORO, MO																			
02F-1317	4.2-19.9-35.4	....	....	....	....	3.5	4.7	....	....	....	....	....	....	....	....	....	....	....	....
02F-1480	4.5-21.0-7.0	47.4	13.8*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
EX-CEL MILLING, INC., SYRACUSE, MO																			
02F-1425	5.0-13.5-41.5	....	....	....	....	....	....	.30	.40	....	....	....	....	....	....	....	....	....	....
FARMERS COOPERATIVE SERVICES, INC., NEW LONDON, MO																			
02F-1412	0.0-25.0-25.0	....	....	....	....	3.0	3.1	....	....	....	....	....	....	....	....	....	....	....	....

* Deficient in the constituent indicated. The Missouri Fertilizer Law does not authorize assessment of penalty for deficiencies in additional plant nutrients.

SECONDARY AND MICRONUTRIENTS IN FERTILIZER

Lab No. 02F#	Grade	% Ca		% Mg		%S		% B		% Cl		% Cu		% Fe		% Mn		% Zn	
		G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F
FREE FLOW FERTILIZER, MAUMEE, OH																			
02F-0428	22.0-3.0-14.0	....	....	....	....	1.9	2.8	....	....	....	....	....	....	....	....	....	....	....	....
02F-1351	29.0-3.0-4.0	....	....	....	....	3.8	4.3	....	....	....	....	....	....	2.0	3.1	....	....	....	....
02F-1354	28.0-3.0-3.0	....	....	....	....	3.6	4.2	....	....	....	....	....	....	....	....	....	....	....	....
02F-1507	29.0-3.0-4.0	....	....	....	....	3.8	4.1	....	....	....	....	....	....	2.0	1.9	....	....	....	....
GARD CROP SERVICE, PALMYRA, MO																			
02F-1300	6.4-16.4-35.3	....	....	....	....	2.3	3.1	....	....	....	....	....	....	....	....	....	....	1.1	1.3
02F-1426	4.1-19.7-33.5	....	....	....	....	2.7	3.1	.20	.27	....	....	....	....	....	....	.20	.35	.30	.55
GLASGOW MFA, GLASGOW, MO																			
02F-0597	12.5-16.5-25.0	....	....	....	....	3.5	4.1	....	....	....	....	....	....	....	....	....	....	....	....
02F-0598	12.5-16.0-24.5	....	....	....	....	4.0	4.8	....	....	....	....	....	....	....	....	....	....	....	....
02F-0909	9.0-24.0-24.5	....	....	....	....	4.0	4.8	....	....	....	....	....	....	....	....	....	....	....	....
02F-1405	3.5-17.5-35.0	....	....	....	....	3.7	4.8	....	....	....	....	....	....	....	....	....	....	.45	.45
GUIER CHEMICAL & FERTILIZER, HOUSTONIA, MO																			
02F-1000	10.3-26.4-26.4	....	....	....	....	3.0	3.3	....	....	....	....	....	....	....	....	....	....	....	....
HELENA CHEMICAL COMPANY, NEW MADRID, MO																			
02F-0901	4.5-0.0-24.0	....	....	....	....	3.0	4.1	....	....	....	....	....	....	....	....	....	....	....	....
HILLER CUSTOM SPREADING, HOUSTONIA, MO																			
02F-1321	2.0-9.5-25.0	....	....	....	....	1.5	2.1	....	....	....	....	....	....	....	....	....	....	....	....
02F-1322	2.0-9.5-25.0	....	....	....	....	1.5	2.3	....	....	....	....	....	....	....	....	....	....	....	....
02F-1427	2.0-9.5-25.0	....	....	....	....	1.5	2.0	....	....	....	....	....	....	....	....	....	....	....	....
HOWARD JOHNSON'S ENTERPRISES, INC., MILWAUKEE, WI																			
02F-0112	25.0-4.0-8.0	....	....	....	....	2.1	3.4	....	....	....	....	....	....	....	....	....	....	....	....
02F-0430	21.0-0.0-21.0	....	....	....	....	3.5	4.0	....	....	....	....	....	....	....	....	....	....	....	....
02F-1270	16.0-4.0-8.0	....	....	....	....	3.0	3.0	....	....	....	....	....	....	2.0	0.9*	....	....	....	....
02F-1273	12.0-22.0-14.0	....	....	....	....	1.0	1.9	....	....	....	....	....	....	1.0	1.3	....	....	....	....
02F-1353	28.0-3.0-4.0	....	....	....	....	2.0	2.7	....	....	....	....	....	....	1.0	1.1	....	....	....	....
02F-1357	26.0-3.0-4.0	....	....	....	....	2.0	2.4	....	....	....	....	....	....	1.0	1.7	....	....	....	....
IRONITE PRODUCTS COMPANY, SCOTTSDALE, AZ																			
02F-0560	1.0-0.0-0.0	2.5	3.5	1.0	2.1	4.5	5.6	....	....	....	....	....	....	4.5	5.2	.07	.07	.45	.92
KELLY LIME & ROCK CO. INC., KIRKSVILLE, MO																			
02F-0838	0.0-0.0-0.0	14.0	17.2	....	....	7.5	7.9	....	....	....	....	....	....	....	....	....	....	....	....
LESCO, INC. (MARTIN'S FERRY), STRONGVILLE, OH																			
02F-0555	18.0-2.0-9.0	....	....	....	....	2.7	4.4	....	....	....	....	....	....	....	....	....	....	....	....
MADISON COUNTY FARM SUPPLY INC., FREDERICKTOWN, MO																			
02F-0154	12.0-12.0-12.0	12.0	12.1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0773	12.0-12.0-12.0	12.0	18.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
MESMER FERTILIZER, BETHEL, MO																			
02F-1478	5.0-28.0-25.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.0	1.9
MFA AGRI SERVICES, BENTON, MO																			
02F-0513	16.0-6.5-31.0	....	....	....	....	....	....	.30	.34	....	....	....	....	....	....	....	....	.50	.80
MFA AGRI SERVICES, BERNIE, MO																			
02F-0642	9.5-13.0-29.5	....	....	....	....	4.5	5.2	....	....	....	....	....	....	....	....	....	....	....	....
MFA AGRI SERVICES, BOONVILLE, MO																			
02F-0370	7.4-19.0-32.3	....	....	....	....	3.8	4.6	....	....	....	....	....	....	....	....	....	....	.76	.91
02F-0788	8.5-21.7-29.3	4.7	4.3
02F-1290	8.4-21.5-28.0	4.6	5.394	1.0
02F-1291	8.4-21.5-28.0	4.6	5.394	.94

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SECONDARY AND MICRONUTRIENTS IN FERTILIZER

Lab No. 02F#	Grade	% Ca		% Mg		%S		% B		% Cl		% Cu		% Fe		% Mn		% Zn		
		G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F	
MFA AGRI SERVICES, CANTON, MO																				
02F-1308	5.1-13.1-40.7	....	....	....	....	3.0	3.7	....	....	....	....	....	....	....	....	....	....	....	.90	.88
MFA AGRI SERVICES, CHAFFEE, MO																				
02F-0769	8.5-23.0-26.0	....	....	....	....	1.5	2.6	....	....	....	....	....	....	....	....	....	....	....	....	....
MFA AGRI SERVICES, CONCEPTION JCT., MO																				
02F-1479	4.7-22.0-27.0	....	....	....	....	5.7	6.4	....	....	....	....	....	....	....	....	....	....	....	1.7	2.0
MFA AGRI SERVICES, FAIRFAX, MO																				
02F-0371	2.0-11.5-41.0	....	....	.63	.87	1.3	1.9	.73	.85	....	....	....	....	....	....	....	....	....	....	....
MFA AGRI SERVICES, GUILFORD, MO																				
02F-1319	3.9-18.6-32.6	....	....	....	....	2.0	8.0	....	....	....	....	....	....	....	....	....	....	....	2.0	0.6*
02F-1384	5.0-23.4-28.0	....	....	....	....	6.2	7.0	....	....	....	....	....	....	....	....	....	....	....	.62	.44*
MFA AGRI SERVICES, HANNIBAL, MO																				
02F-1224	3.1-7.8-44.4	....	....	....	....	6.2	6.5	....	....	....	....	....	....	....	....	....	....	....	1.5	1.5
MFA AGRI SERVICES, HIGGINSVILLE, MO																				
02F-0734	6.9-23.0-27.6	....	....	....	....	2.3	3.0	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0735	6.9-23.0-27.6	....	....	....	....	2.3	2.9	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-1215	8.0-23.9-23.8	....	....	....	....	3.4	4.6	....	....	....	....	....	....	....	....	....	....	....	....	....
MFA AGRI SERVICES, LEVASY, MO																				
02F-1257	5.4-12.8-17.9	....	....	....	....	2.5	2.6	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-1258	5.4-12.8-17.9	....	....	....	....	2.5	3.0	....	....	....	....	....	....	....	....	....	....	....	....	....
MFA AGRI SERVICES, MARYVILLE, MO																				
02F-0805	3.9-10.0-43.5	....	....	....	....	2.9	1.3*	.29	.14*	....	....	....	....	....	....	....	....	....	....	....
02F-1310	5.0-26.0-26.0	....	....	....	....	5.0	6.0	....	....	....	....	....	....	....	....	....	....	....	....	....
MFA AGRI SERVICES, ODESSA, MO																				
02F-0029	2.8-7.3-14.5	....	....	....	....	1.4	1.8	.18	.18	....	....	....	....	....	....	....	....	....	....	....
MFA AGRI SERVICES, SALISBURY, MO																				
02F-0806	3.4-16.3-37.7	....	....	....	....	4.1	5.4	....	....	....	....	....	....	....	....	....	....	....	.94	.94
MFA AGRI SERVICES, SHELBYNA, MO																				
02F-1064	5.3-25.3-30.4	....	....	....	....	.20	1.0	....	....	....	....	....	....	....	....	....	....	....	.70	.82
MFA PLANT FOODS, COLUMBIA, MO																				
02F-0141	21.0-0.0-0.0	....	....	....	....	24.0	24.3	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0177	0.0-0.0-22.0	....	....	11.0	11.2	22.0	22.9	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0208	21.0-0.0-0.0	....	....	....	....	24.0	24.5	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0361	13.0-13.0-13.0	10.0	13.6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0368	6.0-24.0-24.0	2.5	5.5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0437	0.0-0.0-22.0	....	....	11.0	11.6	22.0	22.9	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0504	21.0-0.0-0.0	....	....	....	....	24.0	24.5	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0646	13.0-13.0-13.0	10.0	13.3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0929	13.0-13.0-13.0	10.0	11.8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0931	6.0-24.0-24.0	2.5	6.6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-0981	21.0-0.0-0.0	....	....	....	....	24.0	24.4	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-1052	0.0-0.0-0.0	....	....	....	....	90.0	92.5	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-1105	0.0-0.0-22.0	....	....	11.0	11.4	22.0	22.7	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-1151	20.0-10.0-10.0	8.0	8.7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-1152	13.0-13.0-13.0	10.0	10.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-1401	21.0-0.0-0.0	....	....	....	....	24.0	24.5	....	....	....	....	....	....	....	....	....	....	....	....	....
02F-1416	0.0-0.0-0.0	9.0	7.5*	31.0	28.5
02F-1457	21.0-0.0-0.0	24.0	24.3
02F-1563	21.0-0.0-0.0	24.0	24.6

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SECONDARY AND MICRONUTRIENTS IN FERTILIZER

Lab No. 02F#	Grade	% Ca		% Mg		%S		% B		% Cl		% Cu		% Fe		% Mn		% Zn	
		G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F
MFA PLANT FOODS, COLUMBIA, MO																			
02F-1564	0.0-0.0-0.0	....	....	....	....	90.0	93.7	....	....	....	....	....	....	....	....	....	....	....	....
MFA PLANT FOODS, HAYTI, MO																			
02F-0620	21.0-0.0-0.0	....	....	....	....	24.0	24.4	....	....	....	....	....	....	....	....	....	....	....	....
MID MISSOURI AGRI SERVICES, CONCORDIA, MO																			
02F-1010	3.7-17.8-35.7	....	....	....	....	3.6	5.0	....	....	....	....	....	....	....	....	....	....	.61	.83
MIDWEST AGRI-CHEMICO, INC., CAPE GIRARDEAU, MO																			
02F-0619	21.0-0.0-0.0	....	....	....	....	24.0	24.5	....	....	....	....	....	....	....	....	....	....	....	....
02F-0744	21.0-0.0-0.0	....	....	....	....	24.0	24.4	....	....	....	....	....	....	....	....	....	....	....	....
02F-0745	21.0-0.0-0.0	....	....	....	....	24.0	24.3	....	....	....	....	....	....	....	....	....	....	....	....
02F-0983	21.0-0.0-0.0	....	....	....	....	24.0	24.5	....	....	....	....	....	....	....	....	....	....	....	....
MIRACLE-GRO LAWN PRODUCTS, INC., MARYSVILLE, OH																			
02F-0516	15.0-30.0-15.0	....	....	....	....	....	....	.02	.02	....	....	.07	.08	.15	.14	.05	.04	.06	.07
MO VALLEY AGRI SERVICE, ROCK PORT, MO																			
02F-1320	3.0-14.0-14.0	48.0	9.8*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
MRM AG SERVICE INC., EAST PRAIRIE, MO																			
02F-0643	9.5-9.0-36.0	....	....	....	....	2.0	2.2	....	....	....	....	....	....	....	....	....	....	....	....
PILOT GROVE COOPERATIVE ELEVATOR, PILOT GROVE, MO																			
02F-0794	8.0-21.0-31.0	....	....	....	....	3.0	3.7	....	....	....	....	....	....	....	....	....	....	....	....
02F-0795	8.0-21.0-31.0	....	....	....	....	3.0	3.8	....	....	....	....	....	....	....	....	....	....	....	....
02F-1280	9.5-24.5-26.5	....	....	....	....	2.5	3.4	....	....	....	....	....	....	....	....	....	....	....	....
02F-1281	9.5-24.5-26.5	....	....	....	....	2.5	3.4	....	....	....	....	....	....	....	....	....	....	....	....
02F-1471	7.5-19.0-33.5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.0	1.4
02F-1472	7.5-19.0-33.5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.0	1.3
02F-1474	6.5-16.5-36.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.4	1.3
PURSELL INDUSTRIES, INC., ST LOUIS, MO																			
02F-0209	1.0-1.0-1.0	....	....	....	....	....	....	....	....	....	....	....	....	.01	.01	....	....	....	....
02F-0228	20.0-27.0-5.0	....	....	....	....	....	....	....	....	....	....	....	....	2.0	2.4	....	....	....	....
02F-0366	12.0-12.0-12.0	....	....	....	....	....	....	.02	.03	....	....	.05	.06	.10	.67	....	....	.05	.19
02F-0421	31.0-2.0-4.0	....	....	....	....	....	....	....	....	....	....	....	....	2.0	0.5*	....	....	....	....
02F-0546	29.0-3.0-4.0	....	....	....	....	....	....	....	....	....	....	....	....	1.0	1.2	....	....	....	....
02F-0550	22.0-3.0-14.0	....	....	....	....	1.4	2.3	....	....	....	....	....	....	....	....	....	....	....	....
02F-0552	22.0-3.0-14.0	....	....	....	....	1.0	1.6	....	....	....	....	....	....	....	....	....	....	....	....
02F-0553	22.0-3.0-14.0	....	....	....	....	1.4	2.0	....	....	....	....	....	....	....	....	....	....	....	....
02F-0556	18.0-24.0-10.0	....	....	....	....	....	....	.02	.05	....	....	.05	.15	.10	2.3	.05	.24	.05	.29
RAY-CARROLL COUNTY GRAIN GROWERS, HARDIN, MO																			
02F-0902	16.0-41.2-0.0	....	....	....	....	7.7	9.4	....	....	....	....	....	....	....	....	....	....	.52	.64
RAY-CARROLL COUNTY GRAIN GROWERS, NORBORNE, MO																			
02F-1286	8.9-22.4-26.8	....	....	....	....	7.1	4.0*	....	....	....	....	....	....	....	....	....	....	....	....
02F-1293	8.2-20.6-29.8	....	....	....	....	5.0	6.4	....	....	....	....	....	....	....	....	....	....	.46	.40*
RICKETT'S FARM SERVICE INC., SALISBURY, MO																			
02F-0748	4.1-8.1-24.4	....	....	....	....	3.0	3.0	....	....	....	....	....	....	....	....	....	....	....	....
J.P. ROSS COTTON COMPANY INC., ESSEX, MO																			
02F-0308	7.0-18.5-28.0	....	....	....	....	2.5	3.8	....	....	....	....	....	....	....	....	....	....	....	....
ROYSTER-CLARK AGRIBUSINESS, INC., BOWLING GREEN, MO																			
02F-0916	8.0-21.8-27.2	....	....	....	....	1.6	2.4	....	....	....	....	....	....	....	....	....	....	1.0	.61*
ROYSTER-CLARK AGRIBUSINESS, INC., CLARENCE, MO																			
02F-1359	15.0-13.0-22.0	2.0	2.920	.27

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SECONDARY AND MICRONUTRIENTS IN FERTILIZER

Lab No. 02F#	Grade	% Ca		% Mg		%S		% B		% Cl		% Cu		% Fe		% Mn		% Zn	
		G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F
ROYSTER-CLARK AGRIBUSINESS, INC., COLLINSVILLE, IL																			
02F-0140	21.0-0.0-0.0	....	....	....	....	24.0	24.0	....	....	....	....	....	....	....	....	....	....	....	....
02F-0746	21.0-0.0-0.0	....	....	....	....	24.0	24.0	....	....	....	....	....	....	....	....	....	....	....	....
02F-0930	10.0-30.0-5.0	....	....	....	....	6.0	6.2	....	....	....	....	....	....	....	....	....	....	2.0	2.2
SALISBURY AG CENTER, INC., SALISBURY, MO																			
02F-1298	7.0-19.0-33.5	....	....	....	....	2.0	3.0	.10	.08	....	....	....	....	....	....	....	....	....	....
02F-1323	2.0-12.0-39.5	....	....	....	....	5.5	6.6	.10	.12	....	....	....	....	....	....	.30	.39	.50	.39*
02F-1324	2.0-12.0-39.5	....	....	....	....	5.1	6.1	.10	.15	....	....	....	....	....	....	.50	.59	.70	.73
SCHULTZ COMPANY, BRIDGETON, MO																			
02F-0230	17.0-17.0-17.0	....	....	....	....	3.8	1.6*	....	....	....	....	....	....	.30	.37	.06	.08	....	....
02F-0351	10.0-15.0-10.0	....	....	....	....	....	....	....	....	....	....	....	....	.10	.08*	.05	.04	.05	.04
02F-0751	5.0-10.0-5.0	....	....	....	....	....	....	....	....	....	....	....	....	.10	.08*	....	....	....	....
02F-1096	15.0-17.0-15.0	....	....	....	....	3.8	1.0*	....	....	....	....	....	....	....	....	....	....	....	....
SCOTTS MIRACLE-GRO PRODUCTS, INC., MARYSVILLE, OH																			
02F-0360	10.0-52.0-10.0	....	....	....	....	....	....	.02	.01	....	....	.07	.06	.15	.12*	.05	.03*	....	....
SERVICE AND SUPPLY COOPERATIVE, INC., BELLFLOWER, MO																			
02F-0803	5.0-27.0-27.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.80	1.2
J.R. SIMPLOT CO. (ST. LOUIS), LATHROP, CA																			
02F-0224	24.0-4.0-13.0	....	....	....	....	10.3	9.6	....	....	....	....	....	....	1.5	2.0	.26	.80	....	....
02F-0225	20.0-3.0-20.0	....	....	....	....	11.2	11.2	....	....	....	....	....	....	1.1	1.7	.19	.19	....	....
02F-0226	20.0-10.0-20.0	....	....	....	....	....	....	....	....	....	....	....	....	4.0	4.3	....	....	....	....
02F-1436	25.0-5.0-15.0	....	....	....	....	5.0	6.7	....	....	....	....	....	....	....	....	....	....	....	....
02F-1437	22.0-2.0-22.0	....	....	....	....	6.2	4.0*	....	....	....	....	....	....	.70	1.1	....	....	.10	.32
SMITH BROS. FARM SUPPLY, INC., WILLIAMSTOWN, MO																			
02F-1165	4.7-22.4-29.9	....	....	....	....	2.0	3.2	....	....	....	....	....	....	....	....	....	....	1.8	2.3
SOUTHEAST COOPERATIVE SERVICE CO., MOREHOUSE, MO																			
02F-0984	21.0-0.0-0.0	....	....	....	....	24.0	24.4	....	....	....	....	....	....	....	....	....	....	....	....
SOUTHEAST COOPERATIVE SERVICE CO., ORAN, MO																			
02F-0645	7.5-10.5-37.0	....	....	....	....	3.0	0.6*	....	....	....	....	....	....	....	....	....	....	....	....
SPECTRUM GROUP, DIVISION OF UNITED IND., ST. LOUIS, MO																			
02F-0227	20.0-20.0-20.0	....	....	.50	.49	....	....	.02	.02	....	....	....	....	....	....	.05	.05	.05	.04
02F-0549	22.0-3.0-14.0	....	....	....	....	1.0	1.3	....	....	....	....	....	....	....	....	....	....	....	....
02F-0762	20.0-20.0-20.0	....	....	.50	.42	....	....	.02	.02	....	....	.05	.04	.10	.08*	.05	.04	.05	.04
SUR-GRO PLANT FOOD, FOREST CITY, MO																			
02F-0903	11.5-0.0-27.0	....	....	....	....	13.5	13.3	....	....	....	....	....	....	....	....	....	....	....	....
THE SCOTTS COMPANY, MARYSVILLE, OH																			
02F-0233	6.0-12.0-6.0	....	....	.50	.97	....	....	.02	.03	....	....	....	....	.15	.29	.05	.05	.05	.06
02F-0422	31.0-3.0-9.0	....	....	....	....	3.5	3.9	....	....	....	....	....	....	2.0	1.9	....	....	....	....
02F-0423	30.0-3.0-3.0	....	....	....	....	4.5	7.8	....	....	....	....	....	....	1.8	1.8	.90	.99	....	....
02F-0426	24.0-3.0-12.0	....	....	....	....	10.0	10.9	....	....	....	....	....	....	....	....	....	....	....	....
02F-0427	22.0-3.0-14.0	....	....	....	....	10.0	10.9	....	....	....	....	....	....	....	....	....	....	....	....
02F-0429	22.0-3.0-14.0	....	....	....	....	10.0	12.2	....	....	....	....	....	....	....	....	....	....	....	....
02F-0547	22.0-3.0-14.0	....	....	....	....	10.0	11.6	....	....	....	....	....	....	....	....	....	....	....	....
02F-0548	22.0-3.0-14.0	....	....	....	....	10.0	11.8	....	....	....	....	....	....	....	....	....	....	....	....
02F-0551	22.0-3.0-14.0	....	....	....	....	10.0	12.0	....	....	....	....	....	....	....	....	....	....	....	....
02F-1349	30.0-3.0-3.0	....	....	....	....	4.5	8.3	....	....	....	....	....	....	1.8	1.7	.90	1.0	....	....
02F-1350	29.0-3.0-3.0	....	....	....	....	9.0	11.4	....	....	....	....	....	....	....	....	....	....	....	....
02F-1352	29.0-3.0-4.0	....	....	....	....	6.0	8.9	....	....	....	....	....	....	1.0	1.1	.50	.74	....	....
02F-1355	28.0-3.0-3.0	....	....	....	....	11.0	11.5	....	....	....	....	....	....	....	....	....	....	....	....

* Deficient in the constituent indicated. The Missouri Fertilizer Law does not authorize assessment of penalty for deficiencies in additional plant nutrients.

SECONDARY AND MICRONUTRIENTS IN FERTILIZER

Lab No. 02F#	Grade	% Ca		% Mg		%S		% B		% Cl		% Cu		% Fe		% Mn		% Zn	
		G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F	G	F
THE SCOTTS COMPANY, MARYSVILLE, OH																			
02F-1356	27.0-3.0-4.0	....	....	....	....	8.0	9.0	....	....	....	....	....	....	2.0	2.3	1.0	1.3	....	....
TNT GENERAL CONTRACTING, INC., KAHOKA, MO																			
02F-1023	1.0-0.5-0.5	....	....	....	....	0.5	0.2*	....	....	....	....	....	....	....	....	....	....	....	....
UAP/RICHTER, KAHOKA, MO																			
02F-1159	8.0-20.0-31.0	....	....	....	....	2.0	2.9	....	....	....	....	....	....	....	....	....	....	....	....
UAP/MIDSOUTH, SIKESTON, MO																			
02F-0656	8.0-22.0-29.0	....	....	....	....	0.7	1.4	....	....	....	....	....	....	....	....	....	....	....	....
VOLUNTARY PURCHASING GROUPS, BONHAM, TX																			
02F-0424	28.0-4.0-4.0	....	....	....	....	....	....	.02	.01	....	....	.05	.05	.10	.63	.05	.04	.05	.04
02F-0425	25.0-3.0-6.0	....	....	....	....	....	....	.02	.02	....	....	.05	.04	.10	.88	.05	.06	.05	.05
WEST CENTRAL AGRISERVICES, LLC., CENTERVIEW, MO																			
02F-0921	6.1-29.1-22.1	....	....	....	....	7.4	8.8	....	....	....	....	....	....	....	....	....	....	....	....

* Deficient in the constituent indicated. The Missouri Fertilizer Law does not authorize assessment of penalty for deficiencies in additional plant nutrients.

Additional Fertilizer & Ag Lime Funded Research Topics

<http://aes.missouri.edu/pfcs/research>

FY00 Fertilizer/Ag Lime funded proposals, progress reports

Estimating the need for agricultural liming material
 Refining soil test recommendations for corn
 Refining soil test recommendations for soybean
 Refining soil test recommendations for wheat
 P and K fixation by Missouri Soils'
 No-till lime management and soil pH effects on herbicide carryover
 Soil-specific phosphorus rates

FY01 Fertilizer/Ag Lime funded proposals, progress reports

Increasing the magnesium concentration of tall fescue leaves with phosphorus
 and boron fertilization
 Improved nitrogen fertilization recommendations for soils incorporating a simple
 measurement of soil physical properties
 Effect of potassium fertilization on leafhopper tolerance and persistence of alfalfa
 Cotton response to midseason potassium applications and bronze wilt
 Spectral radiometer to control variable-rate N applications for corn
 Evaluating grain sorghum nitrogen fertilization recommendations

FY02 Fertilizer/Ag Lime funded proposals, progress reports

Refining the Soil test procedure for potassium to improve the K recommendations for
 Missouri soils
 Nitrogen fertilization strategies and annual ryegrass pasture
 The influence of nitrogen rate and pasture composition on the toxicity, quality and
 yield of stockpiled tall fescue
 Conservation tillage systems and liming materials
 Evaluating fall N applications for corn

FY03 Fertilizer/Ag Lime funded proposals

Soil pH effects on atrazine carryover damage to no-till soybean
 Soft red winter wheat replant decision aid based on spring nitrogen recommendations
 and % winterkill
 Soil specific phosphorus and potassium recommendations - critical values
 Development of grain sorghum ratoon cropping system for SE Missouri
 Rescue N applications for corn: yield response, leaf burn and yield loss
 Increasing phosphorus and magnesium concentrations in stockpiled tall fescue
 Plant mapping potassium in rice tissue. What part to sample, when?
 Determining the correct nitrogen rate for cotton following soybeans

**Combined Fertilizer/Ag lime Budget
FY02 income & Disbursements**

	Ag Lime Fees	Fertilizer Fees	Other	Combined
CARRYFORWARD FY01			300,234	300,234
REVENUE:				
Tonnage Fees	109,475	995,778		1,105,253
Audits	1,195	28,423		29,618
Permit Fees	22,600	94,500		117,100
Deficeincy Payments	0	7,543		7,543
Late Payment Fees	1,133	7,881		9,014
Total Revenue Available	134,402	1,134,125		1,268,527
 Total Funds Available	134,402	1,134,125	300,234	<u>1,568,761</u>
DISBURSEMENTS:				
Inspection Services				520,839
Analytical Services				350,340
Experiment Station Chem Lab Support ¹				43,314
Special Equipment Reserve ²				35,000
FY00 Continuing Proposals				49,424
FY01 Continuing Proposals				68,766
FY02 New Proposals				79,985
Total Expenditures				1,129,704
COMMITMENT:				
Contingency				68,000
Non-committed Research Funds				368,757
Annual Research Report				2,300
Total Commitments				439,057
 Total Expenditures/Commitments				<u>1,568,761</u>

Footnotes:

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

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



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March 25, 2003

TO: FERTILIZER INDUSTRY

SUBJECT: ADDITIONAL DISTRIBUTOR PERMITS TO SELL COMMERCIAL
FERTILIZERS IN MISSOURI FOR FISCAL YEAR 2002-03.

The following distributors have been issued permits to sell commercial fertilizer in Missouri for the fiscal year ending June 30, 2003.

Notification of additional permits issued.

Sales to other registered distributors are exempt from inspection fee, but must be reported as a sales transaction monthly.

The last distributor selling fertilizer to a non-distributor is responsible for paying the tonnage fee to the Director.

00893 D	BILGRAMAR FARMS, INC	9574 STATE HIGHWAY PP	PUXICO, MO 63960
00963 D	BRADFIELD INDUSTRIES, INC	610A E. BATTLEFIELD	SPRINGFIELD, MO 65807
01325	CONAGRA INTERNATIONAL	5640 W CHANNEL RD	CATOOSA, OK 74015
01845 L/D	EAKIN LIME & FERTILIZER	PO BOX 173	BELL CITY, MO 63735
01865 L	ECO - AG - TECH	PO BOX 876	BOLIVAR, MO 65613
01975 D	ELM CREEK ENTERPRIZE	15080 BARNETT ROAD	ALMA, MO 64001
02015	ESCO CORP	118 1/2 E. MAIN ST. STE 1	SALEM, VA 24153-3805
02335	GARDEN OF HOPE, INC	6678 SPRINGDALE DR	MIDDLEBURG HEIGHTS, OH 44130-2600
02764	HEARTLAND GARDENS	19734 COATES BLVD	HASTINGS, MN 55033
02995	HUMATECH, INC	PO BOX 218586	HOUSTON, TX 77218
03745 L/D	MARSHALL AG L.L.C.	PO BOX 1	CHARLESTON, MO 63834
03885 L/D	MEYER AG SERVICES, LLC	22010 HUGHESVILLE RD	HUGHESVILLE, MO 65334
05595 L/D	OSWALD AG	22441 250 ST	FAIRFAX, MO 64446
05645	PAWNEE MARKETING LLC	PO BOX 664	BOYS TOWN, NE 68010
05905	PROFITPRO LLC	6678 SPRINGDALE DRIVE	MIDDLEBURG HEIGHTS, OH 44130-2600
05975	RW MILLING COMPANY	PO BOX 263	WAMEGO, KS 66547
06065	REGENERATED RESOURCE'S LLC	118 1/2 E. MAIN ST. STE 1	SALEM, VA 24153-3805
06445 L/D	S & S SEED	5303 N TUCKER COLLINS RD	ROCHEPORT, MO 65279
06565	SEACHEM LABORATORIES, INC	15151-A PRATER DRIVE	COVINGTON, GA 30014-4956
06793 D	SPECIALTY FERTILIZER PRODUCTS	134 CHERRY HILL DR	BELTON, MO 64012

Soil Sampling Fields with Four Types of Probes
Gene Stevens, Allen Wrather, Holly Wilson and David Dunn
Crop Management Specialist, Plant Pathology Specialist, Research Specialist, and Soil Test Lab
Manager
University of Missouri-Delta Research Center, Portageville, Missouri 63873

Soil testing is a vital component of a crop nutrient management program. Field experiments were conducted to compare the time required to collect samples for soil testing using four types of soil probes. Soil sampling time on sandy loam and clay soils was reduced significantly with a cone probe compared with the straight tube and foot-pedal probes. Composite samples were collected from a 20-acre field with clay soil in 22 minutes with a cone probe compared to 38 minutes with straight tube and foot-pedal probes. The cone design saves time by reducing probe clogging and allowing a person to collect 8 to 10 cores before dumping soil into a bucket.

Soil testing is the single most important guide to profitable application of fertilizer and lime (Hoeft and Peck, 2001). By using a nutrient management plan based on soil test results, farmers can optimize crop production and reduce environmental risks. The Environmental Quality Incentives Program (EQIP) in the 2002 U.S. Farm Bill encourages farmers to adopt conservation practices such as nutrient management planning (Natural Resource Conservation Service, 2002). Farmers and ranchers may receive financial and technical help through EQIP to develop and implement nutrient management plans for their farms.

The availability of nutrients already present in the soil should serve as the basis for determining the supplemental nutrient requirements of crops (Klausner, 1997). In a nation-wide survey reported by the Conservation Technology Information Center (1998), 53% of the farmers said that they did not practice soil testing on their farms. In the survey, major reasons cited for farmers not adopting crop nutrient management were unwillingness to change, expense, and time consuming. Most farmers understand the importance of soil sampling and testing; however, the time required to collect samples is a constraint. An average person requires 15 to 40 minutes to walk a 20-acre sampling area and collect a representative composite soil sample.

Although most of this time is spent walking between sampling points in a field, a significant amount of time is required to collect a core at each sampling point. The type of probe that is used may affect the time needed to collect and remove soil cores at each point.

A soil sampling experiment was conducted on fields with silt loam, sandy loam, and clay soils at the University of Missouri-Delta Research Center at Portageville, Missouri. The objective of the test was to determine whether the time required to sample fields with different soil textures is affected by the type of soil probe used.

Features of Soil Probes

Four types of soil probes are shown in Figure 1. Each probe has unique features that are desirable. The foot-pedals on the Oakfield™ and M & M™ models help when pushing a probe into compacted soils. The main difference between the Oakfield and M&M models is the split tube design in the M&M probe (Figure 2a). The split-tube probe has a hinge at the top that allows the tube to open and close. For soils that tend to stick in the tube, this feature allows for faster removal of the sample. The Oakfield foot-pedal model is the only probe that we tested with interchangeable tips. The tip supplied with the probe had an inside diameter of 0.7-inch (18 mm). This produces a slightly smaller core than the inside of the tube and should make the soil core easier to remove after it is the sampling tube. The Hoffer™ straight tube probe is best when a sample is needed from a soil depth greater than 6 inches.

The cone probe used in our study was custom made by a local machine shop in Caruthersville, Missouri. Robert Esser invented the cone-type probe for sampling nematodes in sandy soils in Florida (Steve Koenning, personal communication, 2001). Don Schmitt and Clifton Alston at North Carolina State University later made modifications to the cone design to allow for sampling finer textured soils. The cone probe that we used holds approximately 1 pint of soil in the cone. To collect a core at each sampling point, a person places his or her foot on top of the cone and pushes the probe in the soil. This forces the individual core sample up into the cone chamber. A person can usually collect 8 to 10 cores before having to dump the cores from the cone into a bucket or box (Figure 2b).

The cone was made from 11-gauge sheet metal cut into a trapezoid shape (9.5 inch at top, 10 inch tall, and 3.7 inch at bottom). The sheet metal was rolled and welded along the edges. A 1/2-inch diameter X 28-inch rod was welded to the

cone and bent to best fit a person's wrist. A 4-inch section of rubber hose was inserted over the rod handle at the top for gripping with the hand.

Method of Soil Sampling

Soil samples were collected with each soil probe from three fields, approximately 20 acres each, of Tiptonville silt loam, Bosket sandy loam, and Sharkey clay soils. The soil water content was near field capacity. Four people walked zigzag courses marked with flags and collected 25 soil cores from sample points spaced 208 feet apart. Core samples were collected from 0 to 6-inch soil depths. Each person used all four probes at each field. Soil cores were composited into a bucket and mixed thoroughly. A sub-sample was taken from the bucket and placed in a sample box and labeled. The time required to complete the sampling process with each probe and the incidences of clogging with each probe was recorded.

Fastest Sampling Probe

Sampling time for fields with sandy loam and clay soils were significantly less with the cone probe than the straight tube probe (Table 2). Although the cone probe was originally designed for sampling sandy soils, there was no incidence of clogging on any of the soils. We attributed this to the continuous tapered shape of the cone tube. The split-tube feature on the M&M model probe is helpful on fine textured soils that tend to clog soil probes. However, having to split the tube open to take out each soil sample on the sandy loam field significantly slowed down the sampling process as compared to the other probes.

Usually, more time was required to sample the field with the clay soil than the fields with silt loam and sandy loam soils (Table 2). The workers collecting the samples reported that more effort was required to push the probes into the clay soil. The fastest sampling with the least amount of probe clogging occurred in the sandy loam field. Clogging was a serious problem with the foot-pedal (Oakfield model) and straight tube probes on the clay soil. When the probes clogged, the person collecting the sample had to stop and use a knife to remove the samples. This added to the sampling time. The foot-pedal probe clogged on average 18 times per composite sample on the clay soil. The foot-pedal helped the sample person push the probe in the ground. However, sampling time measurements did not show that it saved any time compared to the straight tube probe. For fields with compacted soil, the extra force provided by a person's foot might save time by not having to use a hammer or mallet to drive the probe in the ground.

In summary, farmers may reduce the time and labor required for soil sampling by carefully selecting the type of proper probe for the task. Averaged across all soils, time required for composite sampling with the Esser cone probe was 29% less than the straight tube probe. More time was required to soil sample a field with clay soil than fields with medium or coarse textured soils.

References

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Conservation Technology Information Center. 1998. Nutrient management survey. West Lafayette, Indiana. Surveyed conducted by Market Directions, Boston, Massachusetts.

Klausner, S. 1997. Nutrient management: crop production and water quality. Northeast Regional Agricultural Engineering Service Rep. 101. Agron. Cooperative Extension, Cornell University, Ithaca, New York.

Natural Resource Conservation Service. 2002. Farm Bill: Environmental Quality Incentives Program. United States Department of Agriculture EQIP Fact Sheet, Washington, D.C.

Table 1. Companies that manufacture the 36-inch soil probes used in the test.

(a) Straight tube Hoffer model	JBK Manufacturing and Development Company, Dayton, Ohio 45430
(b) Foot-pedal Oakfield LS model	Oakfield Apparatus Company, Oakfield, Wisconsin 53065
(c) Split-tube M&M model	M & M Supply Company, Mitchellville, Iowa 50169

Table 2. Average sampling time and clogging for soil probes on different soil textures.

Soil Probe	Time to collect composite sample from 20-acre field			Clogging incidence per field		
	Silt loam	Sandy loam	Clay	Silt loam	Sandy loam	Clay
	----minutes per field----			-----clogs per field-----		
Straight tube	19.7 ab	18.5 b	38.7 a	1 a	0.3 a	14 b
Foot-pedal	19.3 ab	17.5 bc	38.3 a	0.8 a	0.3 a	18 a
Split-tube	20.6 a	21.5 a	23.4 b	0.5 a	0.3 a	0 c
Cone	17.3 b	15.3 c	22.2 b	0 a	0 a	0 c

Numbers followed by the same letter are not significantly different at 0.05 level.



a) Hoffer



(b) Oakfield footstep



(c) M&M split tube



(c) Esser cone

Figure 1. Four types of soil probes tested were (a) Hoffer straight tube (b) Oakfield foot-pedal (c) M&M split-tube and (d) Esser cone.



Fig. 2a Split tube design with M&M probe



Fig. 2b Cone tube design with Esser probe

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This report also available on the web at:
<http://aes.missouri.edu/pfcs>

MISSOURI FERTILIZER REPORT

Fertilizer Control Service
 Agricultural Experiment Station
 University of Missouri-Columbia
 Columbia, MO 65211-8080
 Volume 45, No. 1 January 2003

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