



A&L Analytical Laboratories, Inc.

2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

SOIL ANALYSIS

Client : Terra Renewal Services Tim Lindsey/William Cook P.O. Box 3036 Russellville AR 72811	Grower : APEL T-22	Report No: 08-198-0592 Cust No: 20513 Date Printed: 07/21/2008 Page : 1 of 22
Date Received : 07/16/2008		

Lab Number : 11401

Field Id :

Sample Id : WALKER 1-1

Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	5.3						4.1 meq/100g
Buffer pH	6.56						
Phosphorus (P)	174 LB/ACRE						Calculated Cation Saturation
Potassium (K)	328 LB/ACRE						
Calcium (Ca)	866 LB/ACRE						%K 9.6
Magnesium (Mg)	196 LB/ACRE						%Ca 41.7
Sulfur (S)							%Mg 18.3
Boron (B)							%H 31.3
Copper (Cu)							
Iron (Fe)							
Manganese (Mn)							
Zinc (Zn)							
Sodium (Na)							
Soluble Salts							K : Mg Ratio
Organic Matter	2.5 % ENR 94						0.51
Nitrate Nitrogen	10 LB/ACRE						

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lbs)	LIME (tons)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
4000	2	110	30	35	0						
Crop :											
Rec Units:											

Comments :

COOL SEASON GRASS PASTURE

Limestone application is targeted to bring soil pH to 6.0.

- On light soils with high grass hay yields, soil test annually to maintain soil pH and nutrient level.
- For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.

For cool season grass topdress with nitrogen:
May 1-15 0 to 50 lbs N/Acre.

Feb 15 - March 15 60 to 100 lbs N/Acre.
Aug 1 - Sept 15 60 to 80 lbs N/Acre.



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Date Received : 07/16/2008		

Lab Number : 11402

Field Id :

Sample Id : WALKER 1-2

Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	5.0						5.3 meq/100g
Buffer pH	6.48						
Phosphorus (P)	214 LB/ACRE						Calculated Cation Saturation
Potassium (K)	400 LB/ACRE						
Calcium (Ca)	1092 LB/ACRE						
Magnesium (Mg)	124 LB/ACRE						
Sulfur (S)							
Boron (B)							%K 9.1
Copper (Cu)							%Ca 40.7
Iron (Fe)							%Mg 9.0
Manganese (Mn)							%H 40.8
Zinc (Zn)							K : Mg Ratio 0.99
Sodium (Na)							
Soluble Salts							
Organic Matter	1.6 % ENR 76						
Nitrate Nitrogen	10 LB/ACRE						

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lbs)	LIME (tons)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
5000	2.5	110	0	30	6						
Crop :											Rec Units:

Comments :

COOL SEASON GRASS PASTURE

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- For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.

For cool season grass topdress with nitrogen:
May 1-15 0 to 50 lbs N/Acre.

Feb 15 - March 15 60 to 100 lbs N/Acre.
Aug 1 - Sept 15 60 to 80 lbs N/Acre.



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Lab Number : 11403

Field Id :

Sample Id : WALKER 1-3

Test	Results	SOIL TEST RATINGS					Calculated Cation-Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	5.4						4.8 meq/100g
Buffer pH	6.44						
Phosphorus (P)	154 LB/ACRE						Calculated Cation-Saturation
Potassium (K)	332 LB/ACRE						
Calcium (Ca)	1236 LB/ACRE						%K 8.3
Magnesium (Mg)	152 LB/ACRE						%Ca 50.9
Sulfur (S)							%Mg 12.1
Boron (B)							%H 28.4
Copper (Cu)							K : Mg Ratio 0.67
Iron (Fe)							
Manganese (Mn)							
Zinc (Zn)							
Sodium (Na)							
Soluble Salts							
Organic Matter	1.6 % ENR 76						
Nitrate Nitrogen	10 LB/ACRE						

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lbs)	LIME (ton)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
4500	2.25	110	30	35	0						
Crop :											Rec Units:

Comments :

COOL SEASON GRASS PASTURE

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- For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.

For cool season grass topdress with nitrogen:
 May 1-15 0 to 50 lbs N/Acre.

Feb 15 - March 15 60 to 100 lbs N/Acre.
 Aug 1 - Sept 15 60 to 80 lbs N/Acre.



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Lab Number : 11409

Field Id :

Sample Id : SPERRY-1

Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	6.3						3.3 meq/100g
Buffer pH	6.77						
Phosphorus (P)	138 LB/ACRE						Calculated Cation Saturation
Potassium (K)	158 LB/ACRE						
Calcium (Ca)	1150 LB/ACRE						
Magnesium (Mg)	122 LB/ACRE						
Sulfur (S)							
Boron (B)							%K 5.8
Copper (Cu)							%Ca 68.8
Iron (Fe)							%Mg 14.2
Manganese (Mn)							%H 10.4
Zinc (Zn)							
Sodium (Na)							
Soluble Salts							
Organic Matter	1.9 % ENR 82						
Nitrate Nitrogen	10 LB/ACRE						
						K : Mg Ratio	0.40

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lb)	LIME (ton)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
0	0	110	30	88	5						
Crop :											Rec Units:

Comments :

COOL SEASON GRASS PASTURE

- On light soils with high grass hay yields, soil test annually to maintain soil pH and nutrient level.
- For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.
- For cool season grass topdress with nitrogen:

Feb 15 - March 15	60 to 100 lbs N/Acre.
May 1-15	0 to 50 lbs N/Acre.
Aug 1 - Sept 15	60 to 80 lbs N/Acre.



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Lab Number : 11410

Field Id :

Sample Id : SPERRY-2

Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	6.1						3.1 meq/100g
Buffer pH	6.86						
Phosphorus (P)	200 LB/ACRE						Calculated Cation Saturation
Potassium (K)	190 LB/ACRE						
Calcium (Ca)	984 LB/ACRE						%K 7.4
Magnesium (Mg)	132 LB/ACRE						%Ca 62.7
Sulfur (S)							%Mg 16.3
Boron (B)							%H 14.1
Copper (Cu)							
Iron (Fe)							
Manganese (Mn)							
Zinc (Zn)							
Sodium (Na)							
Soluble Salts							
Organic Matter	1.5 % ENR 74						K : Mg Ratio
Nitrate Nitrogen	10 LB/ACRE						0.44

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lbs)	LIME	(t/ha)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
0		0	110	0	72	0						
Crop :												Rec Units:

Comments :

COOL SEASON GRASS PASTURE

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· For cool season grass topdress with nitrogen:
May 1-15 0 to 50 lbs N/Acre.

Feb 15 - March 15 60 to 100 lbs N/Acre.
Aug 1 - Sept 15 60 to 80 lbs N/Acre.



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Lab Number : 11411

Field Id :

Sample Id : SPERRY-3

Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	6.2						2.7 meq/100g
Buffer pH	6.97						
Phosphorus (P)	82 LB/ACRE						Calculated Cation Saturation %K 3.2 %Ca 61.3 %Mg 23.9 %H 12.1 K : Mg Ratio 0.13
Potassium (K)	72 LB/ACRE						
Calcium (Ca)	838 LB/ACRE						
Magnesium (Mg)	168 LB/ACRE						
Sulfur (S)							
Boron (B)							
Copper (Cu)							
Iron (Fe)							
Manganese (Mn)							
Zinc (Zn)							
Sodium (Na)							
Soluble Salts							
Organic Matter	0.8 % ENR 60						
Nitrate Nitrogen	10 LB/ACRE						

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lbs)	LIME (tons)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
0	0	110	41	121	0						
Crop :											Rec Units:

Comments :

COOL SEASON GRASS PASTURE

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- For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.
- For cool season grass topdress with nitrogen:

May 1-15	0 to 50 lbs N/Acre.	Feb 15 - March 15	60 to 100 lbs N/Acre.
		Aug 1 - Sept 15	60 to 80 lbs N/Acre.



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Lab Number : 11412

Field Id :

Sample Id : SPERRY-4

Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	5.8						3.1 meq/100g
Buffer pH	6.83						
Phosphorus (P)	216 LB/ACRE						Calculated Cation Saturation
Potassium (K)	160 LB/ACRE						
Calcium (Ca)	894 LB/ACRE						
Magnesium (Mg)	150 LB/ACRE						
Sulfur (S)							
Boron (B)							%K 6.2
Copper (Cu)							%Ca 57.0
Iron (Fe)							%Mg 18.5
Manganese (Mn)							%H 19.2
Zinc (Zn)							K : Mg Ratio 0.33
Sodium (Na)							
Soluble Salts							
Organic Matter	1.3 % ENR 70						
Nitrate Nitrogen	10 LB/ACRE						

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lbs)	LIME (tons)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
1500	0.75	110	0	87	0						
Crop :											
Rec Units:											

Comments :

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- For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.

For cool season grass topdress with nitrogen:

May 1-15

0 to 50 lbs N/Acre.

Feb 15 - March 15 60 to 100 lbs N/Acre.

Aug 1 - Sept 15 60 to 80 lbs N/Acre.



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Lab Number : 11420

Field Id :

Sample Id : WALKER 3-1

Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	6.0						5.5 meq/100g
Buffer pH	6.71						
Phosphorus (P)	84 LB/ACRE						Calculated Cation Saturation
Potassium (K)	302 LB/ACRE						
Calcium (Ca)	1756 LB/ACRE						%K 6.6
Magnesium (Mg)	218 LB/ACRE						%Ca 63.1
Sulfur (S)							%Mg 15.2
Boron (B)							%H 15.0
Copper (Cu)							
Iron (Fe)							
Manganese (Mn)							
Zinc (Zn)							
Sodium (Na)							
Soluble Salts							
Organic Matter	1.6 % ENR 76						
Nitrate Nitrogen	12 LB/ACRE						
						K : Mg Ratio	0.43

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lbs)	LIME (tons)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
0	0	108	40	53	0						
Crop :											Rec Units:

Comments :

COOL SEASON GRASS PASTURE

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- For cool season grass topdress with nitrogen:

May 1-15	0 to 50 lbs N/Acre.	Feb 15 - March 15	60 to 100 lbs N/Acre.
		Aug 1 - Sept 15	60 to 80 lbs N/Acre.



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Lab Number : 11423

Field Id :

Sample Id : WALKER 2-2

Test	Results	SOIL TEST RATINGS					Calculated Cation Exchange Capacity
		Very Low	Low	Medium	Optimum	Very High	
Soil pH	5.6						3.2 meq/100g
Buffer pH	6.72						
Phosphorus (P)	52 LB/ACRE						Calculated Carbon Saturation %K 9.9 %Ca 48.6 %Mg 19.2 %H 23.9 %C : Mg Ratio 0.50
Potassium (K)	262 LB/ACRE						
Calcium (Ca)	788 LB/ACRE						
Magnesium (Mg)	160 LB/ACRE						
Sulfur (S)							
Boron (B)							
Copper (Cu)							
Iron (Fe)							
Manganese (Mn)							
Zinc (Zn)							
Sodium (Na)							
Soluble Salts							
Organic Matter	1.4 % ENR 72						
Nitrate Nitrogen	12 LB/ACRE						

SOIL FERTILITY GUIDELINES

Crop : COOL SEASON GRASS PASTURE Yield Goal : 3 TONS Rec Units: LB/ACRE

(lbs)	LIME (tons)	N	P ₂ O ₅	K ₂ O	Mg	S	B	Cu	Mn	Zn	Fe
2500	1.25	108	68	32	0						
Crop :											
Rec Units:											

Comments :

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- For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.

- For cool season grass topdress with nitrogen:
 May 1-15 0 to 50 lbs N/Acre.

Feb 15 - March 15 60 to 100 lbs N/Acre.
 Aug 1 - Sept 15 60 to 80 lbs N/Acre.