



Predictive Home & Garden

Soil Report

Mehlich-3 Extraction

[Soil Testing Section](#)

Client: Jeff Boyst
1043 Turner Rd.
Lexington, NC 27292

Advisor: Maxine Boyst
1043 Turner Dr
Lexington, NC 27292

Sampled County : Davidson

Client ID: 401929**Advisor ID:** 418072

Sampled: 11/01/2016 **Received:** 11/29/2016 **Completed:** 01/24/2017 **Farm:**

Agronomist's Comments:

This report provides Test Results and Recommendations for each sample submitted for testing. Look for Lime Recommendations and N-P-K Fertilizer Recommendations. The lime recommendation is always listed next to the first crop and will be based on the higher target pH if the pH targets for crop 1 and crop 2 differ. Application at the indicated rate will raise soil pH to the optimal level for the plant you specified and should be sufficient for 2 to 3 years, depending on soil type. Common target pH values are as follows: 5.0 for azalea, camellia, rhododendron and mt. laurel; 5.5 for centipedegrass; 6.0 for other lawn grasses, shrubbery, and; flowering plants; and 6.5 for vegetable gardens. N-P-K Recommendations are based on the nitrogen (N) needs of the plants being grown and the soil test results for phosphorus (P-I) and potassium (K-I); a 50 to 70 index for either is optimum. If the exact fertilizer cannot be found, find the closest match and adjust the rate accordingly. Refer to "Understanding the Soil Report" (last page of this report) for additional explanation and links to helpful information. Blueberry hardly ever needs lime; no lime should be applied unless advised by an experienced consultant. Soil pH in the 4.0 to 5.0 range is preferable. If you received a lime recommendation on the report, it is due to the second crop code selection. Our recommendation program provides a lime recommendation for the crop with the highest target pH. This lime recommendation when it exists will always appear next to the first crop. If there is confusion about this, please contact us. Also read Note 18 that can be accessed by a hyperlink found on the report.

Sample ID: GARDN**Lime History:**

0.50 tons/acre;
8/2015

Jeff Boyst

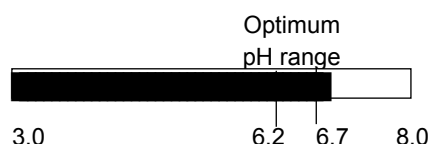
Lime Recommendations

Crop 1- Vegetable garden
Crop 2- Vegetable garden

0.0 lb per 1,000 sq ft
0.0 lb per 1,000 sq ft

Test Results:

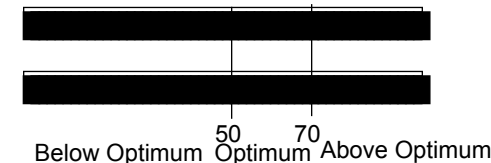
pH = 6.9

**N-P-K Fertilizer Recommendations ***

5 lbs per 1000 sq ft 21-0-0 Group D
5 lbs per 1000 sq ft 21-0-0 Group D

Phosphorus Index (P-I) =603

Potassium Index (K-I) =272

**Additional Test Results:****Soil Class**

Mineral

HM%

0.56

W/V

0.84

g/cm³**CEC**

36.9

meq/100 cm³**Mn-I**

352

Zn-I

1338

Cu-I

192

S-I

226

**If you cannot find the fertilizer recommended here, choose one from the same Group (A, B, C or D) listed on the last page of this report.*



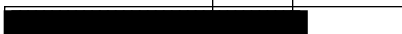
Note: This soil test does not measure nitrogen (N) levels. N fertilizer recommendations are based only on needs of the designated crop.



Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.

Thank you for using agronomic services to manage nutrients and safeguard environmental quality.

- Steve Troxler, Commissioner of Agriculture

NCDA&CS Agronomic Division		Phone: (919) 664-1600		Website: www.ncagr.gov/Divisions/Agronomic-Services		Report No.		FY17-SL019947																							
Jeff Boyst		Page 2 of 5																													
Sample ID: STBYB Lime History:		Recommendations:		Lime		Nutrients (lb/acre)												More Information Note: 18 Note: 18													
		Crop		(tons/acre)		N		P2O5		K2O		Mg		S		Mn				Zn		Cu		B							
		1 - Strawberry, E		0.0		30-60		0		0		0		0		0				0		0		1.0							
		2 - Strawberry, M		0.0		60-80		0		0		0		0		0		0		0		1.0									
Test Results [units - W/V in g/cm³; CEC and Na in meq/100 cm³; NO3-N in mg/dm³]:																						Soil Class: Mineral									
HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-AI1	Mn-AI2	Zn-I	Zn-AI	Cu-I	Na	ESP	SS-I	NO3-N											
0.76	0.89	16.0	92	1.4	6.1	291	211	70	15	71	261	165	165	515	515	139	0.1	1													
Sample ID: ROSES Lime History:		Lime Recommendations										N-P-K Fertilizer Recommendations *																			
		Crop 1- Rose Crop 2- Rose										165.0 lb per 1,000 sq ft 0.0 lb per 1,000 sq ft										5 lbs per 1000 sq ft 21-0-0 Group D 5 lbs per 1000 sq ft 21-0-0 Group D									
		Test Results:										Phosphorus Index (P-I) =370																			
Jeff Boyst												Potassium Index (K-I) =74																			
		3.0 6.2 6.7 8.0										Below Optimum Optimum Above Optimum																			
Additional Test Results:																															
Soil Class		HM%	W/V	CEC	Mn-I	Zn-I	Cu-I	S-I																							
Mineral		0.81	1.01	11.2	145	533	194	91																							
			g/cm³	meq/100 cm³																											
<i>*If you cannot find the fertilizer recommended here, choose one from the same Group (A, B, C or D) listed on the last page of this report. Note: This soil test does not measure nitrogen (N) levels. N fertilizer recommendations are based only on needs of the designated crop.</i>																															

Sample ID: CARRA			Recommendations:		Lime (tons/acre)	Nutrients (lb/acre)										More Information					
						N	P2O5	K2O	Mg	S	Mn	Zn	Cu	B							
Lime History: 1.00 tons/acre; 10/2015			1 - Pecan, M		1.5	Note 15	0	0	0	0			0	0	0	Note: 15 Note: 15					
			2 - Pecan, M		0.0	Note 15	0	0	0	0			0	0	0						
Test Results [units - W/V in g/cm³; CEC and Na in meq/100 cm³; NO3-N in mg/dm³]:																		Soil Class: Mineral			
HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-AI1	Mn-AI2	Zn-I	Zn-AI	Cu-I	Na	ESP	SS-I	NO3-N	
0.81	1.09	11.3	75	2.8	5.3	232	81	50	21	55	123			368	368	114	0.1	1			

Agronomist's Comments:

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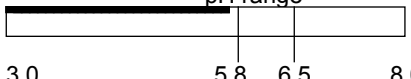
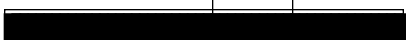
Sample ID:	BLUEB	Recommendations:	Lime	Nutrients (lb/acre)								More Information	
		Crop	(tons/acre)	N	P ₂ O ₅	K ₂ O	Mg	S	Mn	Zn	Cu		
Lime History:		1 - Blueberry, E	0.0	10-30	0	0	0	0	0	0	0	Note: 18	
		2 - Blueberry, M	0.0	30-60	0	0	0	0	0	0	0	Note: 18	

Test Results [units - W/V in g/cm ³ ; CEC and Na in meq/100 cm ³ ; NO ₃ -N in mg/dm ³]:												Soil Class: Mineral								
HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-AI1	Mn-AI2	Zn-I	Zn-AI	Cu-I	Na	ESP	SS-I	NO ₃ -N
0.41	1.02	6.2	62	2.4	5.0	158	121	36	16	60	94	89	89	117	117	47	0.1	2		

Sample ID:	GRAPE	Recommendations:	Lime	Nutrients (lb/acre)								More Information	
		Crop	(tons/acre)	N	P ₂ O ₅	K ₂ O	Mg	S	Mn	Zn	Cu		
Lime History:		1 - Grape-vinifera	1.5	0-30	0	0	0	0	0	0	0	0.5	
		2 - Grape-vinifera	0.0	0-30	0	0	0	0	0	0	0	0.5	

Test Results [units - W/V in g/cm ³ ; CEC and Na in meq/100 cm ³ ; NO ₃ -N in mg/dm ³]:												Soil Class: Mineral								
HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-AI1	Mn-AI2	Zn-I	Zn-AI	Cu-I	Na	ESP	SS-I	NO ₃ -N
0.66	1.04	10.0	83	1.7	5.7	104	134	54	22	46	166	109	109	301	301	112	0.1	1		

Test Results [units - W/V in g/cm ³ ; CEC and Na in meq/100 cm ³ ; NO ₃ -N in mg/dm ³]:												Soil Class:		Mineral						
HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-Al1	Mn-Al2	Zn-I	Zn-Al	Cu-I	Na	ESP	SS-I	NO ₃ -N
0.46	0.99	22.5	94	1.3	6.3	534	522	49	34	102	228	146	149	1317	1317	130	0.2	1		

Sample ID: LAWN									<u>Lime Recommendations</u>		<u>N-P-K Fertilizer Recommendations *</u>	
	Crop 1- Lawn (not centip.)		20.0 lb per 1,000 sq ft		5 lbs per 1000 sq ft 21-0-0 Group D							
	Crop 2- Lawn (not centip.)		0.0 lb per 1,000 sq ft		5 lbs per 1000 sq ft 21-0-0 Group D							
Lime History:	<u>Test Results:</u>								Phosphorus Index (P-I) = 140			
	pH = 5.8				Optimum pH range				Potassium Index (K-I) = 147			
Jeff Boyst		3.0		5.8		6.5		8.0		Below Optimum Optimum Above Optimum		
Additional Test Results:												
Soil Class	HM%	W/V	CEC	Mn-I	Zn-I	Cu-I	S-I					<i>*If you cannot find the fertilizer recommended here, choose one from the same Group (A, B, C or D) listed on the last page of this report. Note: This soil test does not measure nitrogen (N) levels. N fertilizer recommendations are based only on needs of the designated crop.</i>
Mineral	0.66	1.02	10.2	174	365	72	60					
		g/cm ³	meq/100 cm ³									

Understanding the Soil Report

Lime

Application of lime at the recommended rate will raise soil pH to the optimum range. Do not apply too much lime. When soil pH becomes too high, lowering it is very difficult. Often, the best solution then is to choose plants that can tolerate a high pH.

Choosing dolomitic lime can be advantageous because it contains the nutrients calcium and magnesium. Pelleted lime is easier to spread uniformly than powdered lime.

Lime can be applied at any time of year, but because it reacts slowly, it is best to apply it several months before a new planting. Mixing it into the soil will speed the reaction time. Lime applied to the soil surface takes much longer to correct soil pH.

A surface application should not exceed 60 lb per 1,000 sq ft. If a soil report recommends more than this, apply 60 lb per 1,000 sq ft initially and the rest in similar increments every 6-9 months until the full rate is applied.

Fertilizer

Soil tests do not measure nitrogen (N) since it is very unstable in soils; the N recommendations provided on the soil report are based on plant needs. If soil-test P-I and K-I values are adequate (>50), only nitrogen is recommended- Group D below. A mixed (N-P-K) fertilizer is recommended if P-I and K-I values are less than optimum- Groups A - C below. Although a specific fertilizer grade may be recommended (e.g., 5-10-10), other equivalent options are likely to be available (e.g., any fertilizer in Group A from Table 1).

Tips on Fertilizer Application

- To determine how much fertilizer to buy, estimate (in feet) the length (L) and width (W) of the area to be treated: $L \times W = \text{sq ft}$. Square off curves to make estimates easier. If the recommendation is 20 lb per 1,000 sq ft and your area is 5,000 sq ft, then you need 100 lb (20×5) for your 5,000-sq-ft area.
- Calibrate your spreader according to manufacturer settings. Apply half the total rate in one direction; apply the rest at a 90° angle. This cross-hair pattern provides a more uniform application.
- After application, sweep up any fertilizer on hard surfaces and apply to fertilized areas so rainfall does not carry fertilizer to a storm drain.

Table 1. Groups of equivalent fertilizers that supply 1 lb of N per 1,000 sq ft *

<u>Group A: low P-I + low K-I</u>		<u>Group B: low P-I + high K-I</u>		<u>Group C: high P-I + low K-I</u>		<u>Group D: N only</u>	
5-10-10	@ 20 lb	5-10-5	@ 20 lb	8-0-24	@ 12 lb	15-0-0	@ 7 lb
3-9-9	@ 30 lb	18-46-0	@ 6 lb	10-0-14	@ 10 lb	21-0-0	@ 5 lb
10-10-10	@ 10 lb	18-24-10	@ 6 lb	15-0-14	@ 7 lb	16-0-0	@ 6 lb
11-15-11	@ 10 lb	9-13-7	@ 11 lb	6-6-18	@ 17 lb	28-0-4	@ 4 lb
8-10-8	@ 12 lb	9-17-8	@ 11 lb	5-5-15	@ 15 lb	12-6-6	@ 8 lb

* Since these rates supply 1 lb N per 1,000 sq ft, use half the rate if centipede is the grass type.

Report Abbreviations

CEC	cation exchange capacity
Cu-I	copper index
HM%	percent humic matter
Mn-I	manganese index
pH	soil pH
S-I	sulfur index
SS-I	soluble salt index
W/V	weight per volume
Zn-I	zinc index

Time Fertilizer Application to Coincide with Plant Growth Cycle:

Bermudagrass: May, July, Sept

Centipedegrass: May

St. Augustine grass: May, August

Tall fescue: Sept, Nov, Feb

Zoysia: May, July

Flowers/shrubs: prior to planting or during the growing season

Vegetables: prior to planting

[A Homeowner's Guide to Fertilizer](#)

[Note 4: Fertilization of Lawns, Gardens & Ornamentals](#)

[Caring for Your Lawn & Environment](#)

[Carolina Lawns](#)

[Soil Acidity and Liming: Basic Information for Farmers & Gardeners](#)