Predictive

Soil Report

Mehlich-3 Extraction

Links to Helpful Information

Client: Horticultural Crops Research Station / Clinton
2450 Faison Hwy
Clinton, NC 28328

Sampled County : Sampson

Client ID: 403047

Advisor:

Advisor ID:

Sampled: 11/05/2019 Received: 11/19/2019 Completed: 12/16/2019 Farm: RESSTATION

Sample ID: F01

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.3	60-90	0	120	0	25	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	70	0	25	0	0	0	0	Note: 3

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
0.32	1.42	2.5	67	0.8	5.6	166	33	48	13	20	57	51	44	51	51	75	0.1	4		

Sample ID: G02

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	10	0	0	0	0	0	0	Note: 3

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
0.22	1.32	2.9	76	0.7	6.1	96	72	46	18	36	73	60	53	52	52	64	0.1	3		

Sample ID: G03

Lime History:
0.30 tons/acre; 3/2019

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	0	0	0	0	0	0	0	Note: 3

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
0.36	1.38	3.6	79	0.8	6.1	217	87	49	17	38	126	91	84	109	109	105	0.1	3		

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*

Sample ID: G05

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.4	60-90	0	120	0	25	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	70	0	25	0	0	0	0	Note: 3

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
0.27	1.42	2.0	60	0.8	5.5	160	33	39	14	20	74	61	54	79	79	53	0.1	5		

Sample ID: L01

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.4	60-90	0	140	0	25	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	90	0	25	0	0	0	0	Note: 3

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
0.27	1.44	2.0	56	0.9	5.6	256	26	35	15	17	80	65	58	54	54	46	0.1	5		

Sample ID: N03

Lime History:
0.40 tons/acre; 3/2019

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	20	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	20	0	0	0	0	0	0	Note: 3

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
0.22	1.33	2.6	72	0.7	5.9	180	65	42	17	38	78	64	57	96	96	97	0.1	4		

Sample ID: N04

Lime History:
0.40 tons/acre; 3/2019

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	40	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	30	0	0	0	0	0	0	Note: 3

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
0.22	1.27	2.5	73	0.7	6.2	170	58	44	18	32	62	51	44	53	53	80	0.1	4		

Sample ID: N05

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.5	60-90	0	80	25	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	50	$	0	0	0	0	0	Note: 3 Note: $

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
0.22	1.41	2.3	57	1.0	5.4	181	44	37	10	42	49	46	39	68	68	62	0.1	4		

Sample ID: N06

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	20	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	20	0	0	0	0	0	0	Note: 3

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
0.27	1.36	2.7	67	0.9	5.8	145	64	42	13	40	61	54	47	59	59	90	0.1	4		

Sample ID: N11

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	40	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	30	0	0	0	0	0	0	Note: 3

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
0.27	1.38	2.8	71	0.8	6.1	192	56	46	15	37	78	63	56	76	76	165	0.1	4		

Sample ID: N12

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.3	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	10	0	0	0	0	0	0	Note: 3

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
0.18	1.39	2.8	65	1.0	5.7	117	75	35	16	56	42	42	35	33	33	68	0.1	4		

Sample ID: R05

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.5	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	0	0	0	0	0	0	0	Note: 3

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
0.81	1.28	4.8	71	1.4	5.7	68	116	43	15	37	38	40	33	91	91	33	0.1	2		

Sample ID: R10

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.6	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	0	0	0	0	0	0	0	Note: 3

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
0.66	1.30	4.4	67	1.5	5.6	91	111	40	14	35	47	45	38	66	66	35	0.1	2		

Sample ID: R11

Lime History:
0.60 tons/acre; 3/2019

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	70	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	50	0	0	0	0	0	0	0	Note: 3

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
0.60	1.17	5.0	75	1.2	6.0	38	107	43	22	49	34	37	30	60	60	35	0.1	2		

Sample ID: R13

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	0	0	0	0	0	0	0	Note: 3

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
1.14	1.26	5.9	81	1.1	6.2	80	112	48	23	45	38	36	29	57	57	30	0.1	2		

Sample ID: R14

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.5	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	0	0	0	0	0	0	0	Note: 3

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
0.71	1.30	4.6	68	1.4	5.7	97	97	44	14	28	43	43	36	55	55	44	0.1	2		

Sample ID: R17

Lime History:
0.50 tons/acre; 3/2019

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	0	0	0	0	0	0	0	Note: 3

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
1.37	1.23	6.2	81	1.2	6.1	91	157	46	23	62	42	41	34	32	32	48	0.1	2		

Sample ID: R18

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Sweetpotato	0.0	60-90	0	0	0	0	0	0	0	0.5	Note: 6
2 - Soybean	0.0	0	0	0	0	0	0	0	0	0	Note: 3

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
1.31	1.24	7.7	86	1.1	6.2	101	212	45	27	134	45	41	34	36	36	51	0.2	3		

Understanding the Soil Report: explanation of measurements, abbreviations and units

Recommendations

Lime

If testing finds that soil pH is too low for the crop(s) indicated, a ***lime recommendation*** will be given in units of either ton/acre or lb/1000 sq ft. For best results, mix the lime into the top 6 to 8 inches of soil several months before planting. For no-till or established plantings where this is not possible, apply no more than 1 to 1.5 ton/acre (50 lb/1000 sq ft) at one time, even if the report recommends more. You can apply the rest in similar increments every six months until the full rate is applied. If MG is recommended and lime is needed, use dolomitric lime.

Fertilizer

Recommendations ***for field crops or other large areas*** are listed separately for each nutrient to be added (in units of lb/acre unless otherwise specified). Recommendations for N (and sometimes for B) are based on research/field studies for the crop being grown, not on soil test results. K-I and P-I values are based on test results and should be > 50. If they are not, follow the fertilizer recommendations given. If Mg is needed and no lime is recommended, 0-0-22 (11.5% Mg) is an excellent source; 175 to 250 lb per acre alone or in a fertilizer blend will usually satisfy crop needs, SS-I levels appear only on reports for greenhouse soil or problem samples.

Farmers and other commercial producers should pay special attention to ***micronutrient levels***. If *$*, *pH$*, *$pH*, *C* or *Z* notations appear on the soil report, refer to *$Note: Secondary Nutrients and Micronutrients*. In general, homeowners do not need to be concerned about micronutrients. Various crop notes also address lime fertilizer needs; visit ncagr.gov/agronomi/pubs.htm.

Recommendations ***for small areas, such as home lawns/gardens,*** are listed in units of lb/1000 sq ft . If you cannot find the exact fertilizer grade recommended on the report, visit *www.ncagr.gov/agronomi/obpart4.htm#fs* to find information that may help you choose a comparable alternate. For more information, read *A Homeowner's Guide to Fertilizer*.

Test Results

The first seven values [soil class, HM%, W/V, CEC, BS%, Ac and pH] describe the soil and its degree of acidity. The remaining 16 [P-I, K-I, Ca%, Mg%, Mn-I, Mn-AI1, Mn-AI2, Zn-I, Zn-AI, Cu-I, S-I, SS-I, Na, ESP, SS-I, NO_3-N (not routinely available)] indicate levels of plant nutrients or other fertility measurement. Visit *www.ncagr.gov/agronomi/uyrst.htm*

Report Abbreviations

Ac	exchangeable acidity
B	boron
BS%	% CEC occupied by basic cations
Ca%	% CEC occupied by calcium
CEC	cation exchange capacity
Cu-I	copper index
ESP	exchangeable sodium percent
HM%	percent humic matter
K-I	potassium index
K_2O	potash
Mg%	% CEC occupied by magnesium
MIN	mineral soil class
Mn	manganese
Mn-AI1	Mn-availability index for crop 1
Mn-AI2	Mn-availability index for crop 2
Mn-I	manganese index
M-O	mineral-organic soil class
N	nitrogen
Na	sodium
NO_3-N	nitrate nitrogen
ORG	organic soil class
pH	current soil pH
P-I	phosphorus index
P_2O_5	phosphate
S-I	sulfur index
SS-I	soluble salt index
W/V	weight per volume
Zn-AI	zinc availability index
Zn-I	zinc index