



Predictive

Soil Report

Mehlich-3 Extraction

Client: Holland / Holly Whitesides
619 Camp Joy Rd
Zionville, NC 28698

Advisor:

Sampled County : Watauga

Client ID: 407230**Advisor ID:**

Sampled: **Received:** 05/07/2018 **Completed:** 05/15/2018 **Farm:**

Agronomist's Comments:

Soil analysis was provided for these samples however, the analysis is possibly not the most accurate method of evaluating the fertility or nutrient status of these samples since they likely contain little actual soil. If the material is soil-less media or a substrate, the saturated media extract (SME) might be a more valuable method to determine nutrient status. Samples can be submitted to the Plant/Waste/Solution/Media lab for a fee of \$5.00 per sample. Here is a link to where more information can be found.
<http://ncagr.gov/agronomi/uyrmedia.htm>

Sample ID: CSTOP	Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre)										More Information
			N	P ₂ O ₅	K ₂ O	Mg	S	Mn	Zn	Cu	B		
Lime History:	1 - Sweetpotato	0.0	60-90	0	0	0	0	pH\$	0	0	0.5	Note: 6 Note: \$	
	2 - Squash/Pumpkin	0.0	90-120	0	0	0	0	pH\$	0	0	0		Note: 6 Note: \$

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	NO ₃ -N
0.51	1.04	13.0	90	1.4	6.6	71	123	66	19	34	409	254	247	62	62	132	0.2	2		

Sample ID: CSBOT	Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre)										More Information
			N	P ₂ O ₅	K ₂ O	Mg	S	Mn	Zn	Cu	B		
Lime History: 0.50 tons/acre; 4/2018	1 - Beans, pole	0.0	100-120	0	0	0	0	pH\$	0	0	0	Note: 6 Note: \$	
	2 - Brocc/BSprout/Caulif	0.0	80-100	20	0	0	0	pH\$	0	0	0.0		Note: 6 Note: \$

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	NO ₃ -N
0.56	1.01	15.7	93	1.2	6.7	129	191	71	15	36	420	251	251	108	108	109	0.2	1		



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

Holland / Holly Whitesides

Sample ID: WM1 Lime History: 0.50 tons/acre; 4/2018	Recommendations:	Lime	Nutrients (lb/acre)									More Information Note: 6
	Crop	(tons/acre)	N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B	
	1 - Potato, Irish 2 -	0.0	100-150	180	10	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	NO ₃ -N
0.46	1.00	12.6	88	1.6	6.3	30	97	71	13	50	229	150		53	53	68	0.2	2		

Sample ID: WM2 Lime History: 0.50 tons/acre; 4/2018	Recommendations:	Lime	Nutrients (lb/acre)									More Information Note: 6
	Crop	(tons/acre)	N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B	
	1 - Potato, Irish 2 -	0.0	100-150	260	100	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	NO ₃ -N
0.36	0.98	9.9	80	2.0	5.8	9	51	61	17	50	171	120		27	27	44	0.2	2		

Sample ID: HT Lime History: 0.50 tons/acre; 4/2018	Recommendations:	Lime	Nutrients (lb/1000 sq ft)									More Information Note: 9
	Crop	(lb/1000 sq ft)	N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B	
	1 - Tomato, greenhouse 2 -		Note 9	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	NO ₃ -N
0.46	0.96	18.7	96	0.7	7.2	156	160	75	18	85	368			205	205	150	0.4	2	42	

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Sample ID: BB Lime History: 0.50 tons/acre; 4/2018	Recommendations:	Lime	Nutrients (lb/acre)									More Information Note: 6 Note: \$ Note: 6 Note: \$
	Crop	(tons/acre)	N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B	
	1 - Vegetables, other	0.0	80-100	100	0	0	0	pH\$	0	0	0	
	2 - Beet	0.0	100-120	100	0	0	0	pH\$	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
0.41	1.01	13.5	90	1.4	6.5	58	136	70	15	40	341	207	214	61	61	137	0.2	1		

Sample ID: WE1 Lime History: 0.50 tons/acre; 4/2018	Recommendations:	Lime	Nutrients (lb/acre)									More Information Note: 6 Note: \$ Note: 3 Note: \$
	Crop	(tons/acre)	N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B	
	1 - Beet	0.0	100-120	150	0	0	0	pH\$	0	0	0	
	2 - Millet, pearl	0.0	140-180	70	0	0	0	pH\$	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
0.27	0.96	13.4	93	0.9	6.9	34	127	73	15	39	233	143	143	54	54	84	0.2	2		

Sample ID: WE2 Lime History:	Recommendations:	Lime	Nutrients (lb/acre)									More Information Note: 18 Note: \$								
	Crop	(tons/acre)	N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B									
	1 - Strawberry, M	0.0	60-80	20	0	0	0	pH\$	0	0	1.0									
	2 -																			

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
0.36	1.05	12.8	93	0.9	7.0	38	70	76	14	32	239	139		51	51	84	0.2	2		

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Sample ID: TB Lime History:	Recommendations:	Lime (tons/acre) 0.3	Nutrients (lb/acre)									More Information Note: 3
	Crop 1 - Sorghum, syrup 2 -		N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B	
			40-60	100	40	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	NO ₃ -N
0.36	0.98	9.9	82	1.8	5.9	16	54	57	22	30	443	283		40	40	95	0.2	2		

Sample ID: CV1/2 Lime History:	Recommendations:	Lime (tons/acre) 1.2 0.0	Nutrients (lb/acre)									More Information Note: 7 Note: 6								
	Crop 1 - Tomato 2 - Vegetables, other		N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B									
			90-120	140	30	0	0	0	0	0	1.0									
			80-100	140	30	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	NO ₃ -N
0.36	1.02	10.6	85	1.6	6.2	39	98	63	17	34	287	175	179	69	69	76	0.2	2		

Sample ID: CV3 Lime History: 0.50 tons/acre; 4/2018	Recommendations:	Lime (tons/acre) 0.0	Nutrients (lb/acre)									More Information Note: 6								
	Crop 1 - Brocc/BSprout/Caulif 2 -		N	P₂O₅	K₂O	Mg	S	Mn	Zn	Cu	B									
			80-100	50	0	0	0	0	0	0	2.0									

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	NO ₃ -N
0.41	0.97	11.0	82	2.0	5.8	86	131	59	16	45	389	243		72	72	62	0.2	2		

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 dolomitic 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 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, NO₃-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
K₂O	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
NO₃-N	nitrate nitrogen
ORG	organic soil class
pH	current soil pH
P-I	phosphorus index
P₂O₅	phosphate
S-I	sulfur index
SS-I	soluble salt index
W/V	weight per volume
Zn-AI	zinc availability index
Zn-I	zinc index