

Caret Cellars & Vineyard

Soil Quality Summary

This summary presents the property's soil testing results and professional appraisal findings in accessible, non-technical language. No background in agriculture or viticulture is required to understand it.

Testing Overview

In 2016, soil samples were collected from each vineyard block and submitted to an independent laboratory for analysis. The testing evaluated nutrient content, organic matter levels, and soil pH across all planted varieties.

Nutrient Levels: High to Very High

Soil nutrients such as phosphorus, potassium, calcium, and magnesium support healthy vine growth. Every block tested returned results in the "High" to "Very High" range across all measured nutrients, indicating the soil holds a strong natural nutrient reserve and requires minimal supplemental fertilization.

Organic Matter: Healthy Range

Organic matter content, an indicator of long-term soil fertility and water retention, tested within a healthy, expected range for the region.

Recommended Adjustment: Standard Lime Application

The lab recommended a modest lime application (2 to 4 tons per acre, depending on block) to manage soil pH. This is a routine, low-cost agricultural practice common to vineyard maintenance and does not indicate any underlying soil deficiency.

Independent Appraisal Confirmation

In the 2022 property appraisal, a Virginia Certified General Real Estate Appraiser with experience valuing more than 80 vineyard and winery properties across Virginia and Maryland conducted an on-site inspection. The appraisal report concludes that soil conditions are typical of the region and adequate to support continued use as a vineyard.

Summary: Laboratory testing and independent professional appraisal both confirm the property's soil is well-suited to continued vineyard production.

Report Number: 16-006-0622

Account Number: 74064

Send To: CROP PRODUCTION SERVICES

Duke McBroom
2453 Birchwood Creek Rd.
King George, VA 22485

Waypoint
ANALYTICAL

"Every acre...Every year."™

Submitted By: FLOYD OSLIN

Crop Production Services
7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ■ Fax 804-271-6446
www.waypointanalytical.com

Grower: RD THOMPSON

CARET VINEYARDS

SOIL ANALYSIS REPORT

Date Received: 01/06/2016

Date Of Analysis: 01/07/2016

Date Of Report: 01/07/2016

Analytical Method(s): Mehlich 3

Sample ID Field ID	Lab Number	OM %	Ra te	W/V Soil Clas s	ENR lbs/A	Phosphorus				Potassium		Magnesium		Calcium		Sodium		pH		Acidity	C.E.C
						Mehlich 3 ppm	Ra te	Reserve ppm	Ra te	K ppm	Ra te	Mg ppm	Ra te	Ca ppm	Ra te	Na ppm	Ra te	Soil pH	Buffer Index		
SANGIO	05212	3.1	M		102	78	H			136	H	182	H	821	M			6.2		0.8	6.8
VIOGN	05213	2.4	L		89	78	H			149	H	185	H	792	M			6.6		0.4	6.3
MERLOT	05214	3.6	M		111	143	VH			132	H	153	H	1012	M			6.2		0.9	7.6
CHARD	05215	3.2	M		103	76	H			143	H	166	H	921	M			6.1	6.83	1.0	7.4

Sample ID Field ID	Percent Base Saturation					Nitrate		Sulfur		Zinc		Manganese		Iron		Copper		Boron		Soluble Salts		Chloride		Alum inum
	K %	Mg %	Ca %	Na %	H %	NO3 N ppm	Ra te	S ppm	Ra te	Zn ppm	Ra te	Mn ppm	Ra te	Fe ppm	Ra te	Cu ppm	Ra te	B ppm	Ra te	SS ms/c m	Ra te	Cl ppm	Ra te	
SANGIO	5.1	22.3	60.4		11.8									233	VH			0.8	M					
VIOGN	6.1	24.5	62.9		6.3									164	VH			0.6	M					
MERLOT	4.5	16.8	66.6		11.8									294	VH			0.6	M					
CHARD	5.0	18.7	62.2		13.5									214	VH			1.0	M					

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity. Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm. This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing. Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric McGroary
Pauric McGroary

Report Number: 16-006-0622

Account Number: 74064

Send To: CROP PRODUCTION SERVICES

Duke McBroom

2453 Birchwood Creek Rd.

King George, VA 22485

Waypoint
ANALYTICAL

"Every acre...Every year."™

Submitted By: FLOYD OSLIN

Crop Production Services

7621 Whitepine Road, Richmond, VA 23237

Main 804-743-9401 ■ Fax 804-271-6446

www.waypointanalytical.com

Grower: RD THOMPSON

CARET VINEYARDS

SOIL FERTILITY RECOMMENDATIONS

Date Received: 01/06/2016

Date Of Report: 01/07/2016

Sample ID Field ID	Intended Crop	Yield Goal Tons	Lime Tons/A	Nitrogen N lb/A	Phosphate P2O5 lb/A	Potash K2O lb/A	Magnesium Mg lb/A	Sulfur S lb/A	Zinc Zn lb/A	Manganese Mn lb/A	Iron Fe lb/A	Copper Cu lb/A	Boron B lb/A
SANGIO	Grapes-American	4	0.0	**	0	0	0				0		2.0
VIOGN	Grapes-American	2	0.0	**	0	0	0				0		2.5
MERLOT	Grapes-American	4	0.0	**	0	64	0				0		2.5
CHARD	Grapes-American	4	0.8	**	0	0	0				0		2.0

Comments:

Sample(s) : CHARD Crop: Grapes-American

Since grapes are inefficient in taking up magnesium, dolomitic lime is normally preferred as a lime source.

Sample(s) : VIOGN, MERLOT, CHARD Crop: Grapes-American

* On established American grapes apply 50# of actual N per acre right after bud break. Additional N application should be decided by the vigor of the plant. Broadcast additional 50# actual N at full bloom if growth is less vigorous. Petiole analysis is an excellent way to gauge N status of vines. Submit 20-30 petioles cut from leaves opposite the flower cluster at full bloom. If grapes are vinifera varieties the above lime recommendations are correct.

Boron recommendations are on a broadcast basis.

"The recommendations are based on research data and experience, but NO GUARANTEE or WARRANTY expressed or implied, concerning crop performance is made."

Our reports and letters are for the exclusive and confidential use of our clients, and may not be reproduced in whole or part, nor may any reference be made to the work, the results, or the company in any advertising, news release, or other public announcements without obtaining our prior written authorization. Copyright 1977.

by: Pauric McGroary
Pauric McGroary