

July 24, 2024

UVA Community Garden

Albany, CA 94706

Lab No. : SP 2411180

Customer No. :

Laboratory Report

Introduction: This report package contains a total of 3 pages divided into 3 sections:

Case Narrative	(1 page)	: An overview of the work performed at FGL.
Sample Results	(1 page)	: Results for each sample submitted.
Quality Control	(1 page)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
Garden Beds	07/03/2024	07/08/2024	SP 2411180-002	S

Sampling and Receipt Information:

The Sample was received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. The Sample was received, prepared and analyzed within the method specified holding times. All samples arrived room temperature. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the associated Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to established quality control criteria. Any exceptions are noted in the Quality Control Section of this report.

Test Summary

EPA 6010 B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
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Certification: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above and in the QC Section. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature. This report shall not be reproduced except in full, without the written approval of the laboratory.

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.**



Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2024-07-24

July 24, 2024

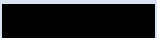
UVA Community Garden



Albany, CA 94706

Description : Garden Beds
 Project : UVA Community Garden

Lab No. : SP 2411180-002

Customer No. : 

Sampled On : July 3, 2024

Sampled By : Not Available

Received On : July 8, 2024 at 08:15

Matrix : Soil

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
							Date	Time	Who	Method	Date	Time	Who
Metals, Total													
Arsenic	5	2	mg/kg		1		07/17/2024	08:00	ac	EPA 6010 B	07/17/2024	20:41	ac
Cadmium	ND	0.3	mg/kg		1	U	07/17/2024	08:00	ac	EPA 6010 B	07/17/2024	20:41	ac
Chromium	56.6	0.5	mg/kg		1	ph	07/17/2024	08:00	ac	EPA 6010 B	07/17/2024	20:41	ac
Lead	49	1	mg/kg		1		07/17/2024	08:00	ac	EPA 6010 B	07/17/2024	20:41	ac

DQF Flags Definition:

- U Constituent results were non-detect.
- h The MS/MSD did not meet QC criteria.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

July 24, 2024

Lab No. : SP 2411180

Customer No. :

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Arsenic	3050	07/17/2024:207920AC (CH 2475674-001)	Blank	mg/kg		ND	<2	
			LCS	mg/kg	40.00	92.0%	85-115	
			MS	mg/kg	40.00	100%	75-125	
			MSD	mg/kg	40.00	96.8%	75-125	
			MSRPD	mg/kg		3.3%	≤20	
			PDS	mg/kg	40.00	102%	75-125	
Cadmium	3050	07/17/2024:207920AC (CH 2475674-001)	Blank	mg/kg		ND	<0.3	
			LCS	mg/kg	40.00	93.7%	85-115	
			MS	mg/kg	40.00	102%	75-125	
			MSD	mg/kg	40.00	99.5%	75-125	
			MSRPD	mg/kg		2.0%	≤20	
			PDS	mg/kg	40.00	99.1%	75-125	
Chromium	3050	07/17/2024:207920AC (CH 2475674-001)	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	104%	85-115	
			MS	mg/kg	40.00	140%	75-125	435
			MSD	mg/kg	40.00	133%	75-125	435
			MSRPD	mg/kg		1.9%	≤20	
			PDS	mg/kg	40.00	132%	75-125	430
Lead	3050	07/17/2024:207920AC (CH 2475674-001)	Blank	mg/kg		ND	<1	
			LCS	mg/kg	40.00	98.8%	85-115	
			MS	mg/kg	40.00	110%	75-125	
			MSD	mg/kg	40.00	108%	75-125	
			MSRPD	mg/kg		1.1%	≤20	
			PDS	mg/kg	40.00	108%	75-125	

Definition

Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
PDS	: PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte. Data was accepted based on the LCS recovery.

Explanation

430	: Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte. Data was accepted based on the LCS recovery.
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

July 24, 2024

UVA Community Garden

Albany, CA 94706

Description : Orchard-Fruit Trees
Project : UVA Community Garden

Lab ID : SP 2411180-001

Customer : XXXXXXXXXX

Sampled On : July 3, 2024

Sampled By : Not Available

Received On : July 8, 2024

Depth : 0-6"

Lemon Soil Analysis

Test Description	Result	Units	Optimum Range	Graphical Results Presentation				
				Very Low	Moderately Low	Optimum	Moderately High	Very High
Primary Nutrients								
Nitrate-Nitrogen	23.9	PPM	27 - 37					
Phosphorus-P ₂ O ₅	131	PPM	50 - 84					
Potassium-K ₂ O (Exch)	408	PPM	120 - 720					
Potassium-K ₂ O (Sol)	0.9	meq/L	1.3 - 3.7	7%				
Secondary Nutrients								
Calcium (Exch)	3790	PPM	3100 - 4100					
Calcium (Sol)	6.8	meq/L	4.6 - 12	60%				
Magnesium (Exch)	694	PPM	310 - 620					
Magnesium (Sol)	3.22	meq/L	3.4 - 6.9	28%				
Sodium (Exch)	40	PPM	0.0 - 290					
Sodium (Sol)	0.618	meq/L	< 12	5%				
Sulfate	1.1	meq/L	1.7 - 21					
Micro Nutrients								
Zinc	28.1	PPM	2.1 - 41					
Manganese	29.9	PPM	3.8 - 62					
Iron	124	PPM	21 - 61					
Copper	5.2	PPM	0.64 - 11					
Boron	0.250	PPM	0.47 - 2.3					
Chloride	0.677	meq/L	0.27 - 4.8					
CEC	25.6	meq/100g	14 - 35					
% Base Saturation								
CEC - Calcium	73.8	%	60 - 80					
CEC - Magnesium	22.3	%	10 - 20					
CEC - Potassium	3.39	%	1.0 - 6.0					
CEC - Sodium	0.645	%	0.0 - 5.0					
CEC - Hydrogen	< 1.00	%	0.0 - 3.0					
				Strongly Acidic	Moderately Acidic	Near Neutral	Moderately Alkaline	Strongly Alkaline
pH	6.4		6.0 - 7.5					



July 24, 2024

UVA Community Garden

Description : Orchard-Fruit Trees
Project : UVA Community Garden

Lab ID : SP 2411180-001

Customer : [REDACTED]

Sampled By : Not Available

Depth : 0-6"

Lemon Soil Analysis

Test Description	Result	Units	Optimum Range	Graphical Results Presentation						
Others				Satisfactory	Possible Problem	Moderate Problem	Increasing Problem			
Soil Salinity	0.791	dS/m	0.0 - 2.0							
SAR	0.3		0.0 - 6.0							
Limestone	<0.10	%	0.0 - 0.50							
				0	1	2	3	4	5	6
Lime Requirement	0	Tons/AF	---							
Gypsum Requirement	<0.50	Tons/AF	---							
				Very Low	Moderately Low	Optimum	Moderately High	Very High		
Moisture	14.0	%	6.4 - 45							
				Loamy Sand	Sandy Loam	Loam	Silt Loam	Clay Loam	Clay	Organic
Saturation	63.8	%	40 - 50							
				Mineral			Organic			
% Organic Matter	12.1	%	---							

Good Problem Indicates physical and/or phenological and amendment requirements.

Note: Color coded bar graphs have been used to provide you with 'AT-A-GLANCE' interpretations.

Note: Soils with gypsum requirements over 10 tons should be applied incrementally at a maximum of 10 tons per acre per year and reanalyzed yearly after each application.

1) The need for soil Nitrate is dependent upon crop phenology (Growth Stage) and crop requirement. A soil Nitrate level of 10 - 40 ppm is preferred for a short time during critical periods of uptake into the tree. It is highly desirable to have low soil Nitrate (< 5ppm) prior to winter rainfall and cold soil conditions. Use the leaf Nitrogen level to determine primary Nitrogen requirement.

2) Trifoliolate & Citrumelo rootstocks are very sensitive to limestone and should not be planted in soils containing limestone. Other rootstock are moderately sensitive to limestone. Ascertain the rootstock tolerance prior to planting.

BRW:EHB

Reviewed and Approved By **Ben Waddell**  Digitally signed by Ben Waddell
Title: Director of Ag. Services
Date: 2024-07-24

July 24, 2024

UVA Community Garden

Albany, CA 94706

Description : Garden Beds

Project : UVA Community Garden

Lab ID : SP 2411180-002

Customer :

Sampled On : July 3, 2024

Sampled By : Not Available

Received On : July 8, 2024

Depth : 0-10"

Garden Vegetables Soil Analysis

Test Description	Result	Units	Optimum Range	Graphical Results Presentation				
				Very Low	Moderately Low	Optimum	Moderately High	Very High
Primary Nutrients								
Nitrate-Nitrogen	32.7	PPM	30 - 50					
Phosphorus-P ₂ O ₅	229	PPM	75 - 98					
Potassium-K ₂ O (Exch)	424	PPM	140 - 830					
Potassium-K ₂ O (Sol)	0.805	meq/L	1.7 - 4.1	6%				
Secondary Nutrients								
Calcium (Exch)	4470	PPM	3500 - 4700					
Calcium (Sol)	6.4	meq/L	4.8 - 11			58%		
Magnesium (Exch)	711	PPM	360 - 710					
Magnesium (Sol)	2.82	meq/L	2.2 - 5.5			26%		
Sodium (Exch)	50	PPM	0.0 - 340					
Sodium (Sol)	1.18	meq/L	< 14			11%		
Sulfate	1.6	meq/L	2.3 - 22					
Micro Nutrients								
Zinc	133	PPM	2.3 - 41					
Manganese	435	PPM	4.6 - 63					
Iron	157	PPM	21 - 81					
Copper	59.0	PPM	0.59 - 40					
Boron	0.347	PPM	0.50 - 1.7					
Chloride	1.13	meq/L	0.30 - 6.2					
CEC	29.3	meq/100g	14 - 35					
% Base Saturation								
CEC - Calcium	76.1	%	60 - 80					
CEC - Magnesium	20.0	%	10 - 20					
CEC - Potassium	3.08	%	1.0 - 6.0					
CEC - Sodium	0.706	%	0.0 - 5.0					
CEC - Hydrogen	< 1.00	%	0.0 - 3.0					
				Strongly Acidic	Moderately Acidic	Near Neutral	Moderately Alkaline	Strongly Alkaline
pH	6.6		6.5 - 7.5					



July 24, 2024

UVA Community Garden

Description : Garden Beds
Project : UVA Community Garden

Lab ID : SP 2411180-002

Customer : [REDACTED]

Sampled By : Not Available

Depth : 0-10"

Garden Vegetables Soil Analysis

Test Description	Result	Units	Optimum Range	Graphical Results Presentation							
Others				Satisfactory		Possible Problem		Moderate Problem		Increasing Problem	
Soil Salinity	0.811	dS/m	0.0 - 2.0								
SAR	0.5		0.0 - 6.0								
Limestone	<0.10	%	0.0 - 0.50								
				0	1	2	3	4	5	6	
Lime Requirement	0	Tons/AF	---								
Gypsum Requirement	<0.50	Tons/AF	---								
				Very Low		Moderately Low		Optimum		Moderately High	
Moisture	24.5	%	6.9 - 48								
				Loamy Sand	Sandy Loam	Loam	Silt Loam	Clay Loam	Clay	Organic	
Saturation	69.2	%	40 - 50								
				Mineral				Organic			
% Organic Matter	9.00	%	---								

Good Problem Indicates physical and/or phenological and amendment requirements.

Note: Color coded bar graphs have been used to provide you with 'AT-A-GLANCE' interpretations.

Note: Soils with gypsum requirements over 10 tons should be applied incrementally at a maximum of 10 tons per acre per year and reanalyzed yearly after each application.
N/A

BRW:EHB

Reviewed and Approved By **Ben Waddell**  Digitally signed by Ben Waddell
Title: Director of Ag. Services
Date: 2024-07-24

July 24, 2024

UVA Community Garden

Albany, CA 94706

Description : Northern Area

Project : UVA Community Garden

Lab ID : SP 2411180-003

Customer : [REDACTED]

Sampled On : July 3, 2024

Sampled By : Not Available

Received On : July 8, 2024

Depth : 0-10"

General Soil Analysis

Test Description	Result	Units	Optimum Range	Graphical Results Presentation				
Primary Nutrients				Very Low	Moderately Low	Optimum	Moderately High	Very High
Nitrate-Nitrogen	8.91	PPM	29 - 49					
Phosphorus-P ₂ O ₅	0.195	PPM	74 - 97					
Potassium-K ₂ O (Exch)	361	PPM	130 - 780					
Potassium-K ₂ O (Sol)	0.423	meq/L	1.7 - 4.1	4%				
Secondary Nutrients								
Calcium (Exch)	3970	PPM	3300 - 4400					
Calcium (Sol)	4.3	meq/L	4.7 - 11	54%				
Magnesium (Exch)	834	PPM	340 - 670					
Magnesium (Sol)	2.09	meq/L	2.2 - 5.5	27%				
Sodium (Exch)	60	PPM	0.0 - 320					
Sodium (Sol)	1.15	meq/L	< 12	15%				
Sulfate	1.8	meq/L	2.2 - 22					
Micro Nutrients								
Zinc	19.1	PPM	2.2 - 41					
Manganese	15.7	PPM	4.5 - 62					
Iron	188	PPM	20 - 80					
Copper	6.0	PPM	0.58 - 40					
Boron	0.412	PPM	0.49 - 1.7					
Chloride	0.543	meq/L	0.29 - 6.2					
CEC	27.7	meq/100g	14 - 35					
% Base Saturation								
CEC - Calcium	71.5	%	60 - 80					
CEC - Magnesium	24.8	%	10 - 20					
CEC - Potassium	2.77	%	1.0 - 6.0					
CEC - Sodium	0.949	%	0.0 - 5.0					
CEC - Hydrogen	< 1.00	%	0.0 - 3.0					
pH	6.6		6.5 - 7.5					



July 24, 2024

UVA Community Garden

Description : Northern Area
Project : UVA Community Garden

Lab ID : SP 2411180-003

Customer : [REDACTED]

Sampled By : Not Available

Depth : 0-10"

General Soil Analysis

Test Description	Result	Units	Optimum Range	Graphical Results Presentation							
Others				Satisfactory		Possible Problem		Moderate Problem		Increasing Problem	
Soil Salinity	0.534	dS/m	0.0 - 2.0								
SAR	0.6		0.0 - 6.0								
Limestone	<0.10	%	0.0 - 0.50								
				0	1	2	3	4	5	6	
Lime Requirement	0	Tons/AF	---								
Gypsum Requirement	<0.50	Tons/AF	---								
				Very Low		Moderately Low		Optimum		Moderately High	
Moisture	12.4	%	6.8 - 47								
				Loamy Sand	Sandy Loam	Loam	Silt Loam	Clay Loam	Clay	Organic	
Saturation	67.6	%	40 - 50								
				Mineral				Organic			
% Organic Matter	6.83	%	---								

Good Problem Indicates physical and/or phenological and amendment requirements.

Note: Color coded bar graphs have been used to provide you with 'AT-A-GLANCE' interpretations.

Note: Soils with gypsum requirements over 10 tons should be applied incrementally at a maximum of 10 tons per acre per year and reanalyzed yearly after each application.

Soil pH & Limestone levels are important to consider when making plant selections. Soil pH levels above 7.0 are not suitable for acid loving plants. Soils containing limestone are not suitable for plants sensitive to Limestone.

BRW:EHB

Reviewed and Approved By **Ben Waddell**  Digitally signed by Ben Waddell
Title: Director of Ag. Services
Date: 2024-07-24