



Denele Analytical, Inc.

Agricultural and Environmental Analysis

Soil Analysis

Certified By:

ELAP Certificate No. 2714

Manure Analysis Proficiency (MAP)

North American Proficiency Testing (NAPT)

National Forage Testing Association (NFTA)

Family Farms Alliance (FFA)

Date Received: 9/22/2023
Submitted By: Matt Houston
Lab ID: W3265004A
Sample ID: New Block

Crop: Pistachios
Variety:
Present Yield:
Proposed Yield: 1 Ton(s)/acre
PCA:

Purchase Order:
Report Date: 10/3/2023
Approved By: Leslie Jovel
Order Number: W3265004
Grower: Grewal Orchards

Wilbur Ellis- Woodland
1785 East Beamer Street
Woodland, CA 95776

Analyte	Result	Units	Optimal	Very Low	Low	Normal	High	Very High
pH (Water)	7.8	Units	6.45					
pH (Soil)	6.8	Units	6.45					
Electrical Conductivity	5.61	mmhos/cm	1.05					
Soluble Salts	3590	mg/L	672					
Nitrate Nitrogen	11.8	ppm	35					
Phosphorus (Olsen Method)	41.0	ppm	26					
MicroNutrients								
Boron	3.75	ppm	0.6					
Zinc	1.09	ppm	12.5					
Iron	6.71	ppm	60					
Copper	1.15	ppm	7					
Manganese	7.18	ppm	22					
Sulfate	12.0	ppm	38.5					

	Exchangeable Cations		Base Saturation Acetate Extraction					Water Extraction		Extraction Ratio
	Result		Your %	Optimal %	Low	Normal	High	Result	% Total	
Potassium	106 ppm		2.9 %	3 - 7				Potassium	0.433 meq	2.5 %
Calcium	1020 ppm		54.4 %	64 - 78				Calcium	4.77 meq	27.7 %
Magnesium	407 ppm		36.4 %	12 - 20				Magnesium	5.27 meq	30.6 %
Sodium	132 ppm		6.2 %	< 3				Sodium	6.76 meq	39.2 %

Plant Nutrient Recommendations

Nitrogen	172.8 Lbs/Acre	Sulfur *	
Phosphorus		Boron	
Potassium	126.8 Lbs/Acre	Zinc	7.6 Lbs/Acre
Copper	3.4 Lbs/Acre	Manganese	

* If fertilizer recommendation exceeds 600 lbs (0.3 tons), multiple applications recommended
Note: All Results are on a Dry Basis
To convert ppm to lbs / acre (6 in. of surface soil weighing 2,000,000 lbs.), multiply by 2

Total Nitrogen	ESP	SAR	C:N	Ca:Mg
Bray Phosphorus	5.7	3		2.5
Ammonia Nitrogen		CEC	10.1 meq/100g	
Free Lime		Carbonates	None	
Nitrogen Holding Capacity	75.5 Lbs/Acre	Percolation	Very High	

Denele Integrated Ratios	Sodium	NO3	Potassium	Phosphorus
	72.5	-35.8		44.6
Boron	Zinc	Iron	Copper	Manganese
222.5	-182.5	-140.1	-91.7	-37.7
				Sulfate
				-40.4

Soil Amendment Recommendations

Gypsum (18%) Calcium Supplement	
Gypsum (18%) Sodium Reduction	1 Tons/Acre

The micronutrients recommended are in lbs/acre on a broadcast elemental basis. If micronutrients are banded, divide the recommended value by 3. If chelated fertilizers are used, divide the recommendation by 4. Research has shown that optimum yields are obtained with nitrogen split into 2 to 4 applications. Recommended nitrogen is based on 90% efficiency of application. Highest losses of nitrogen occur with winter applications. Early spring to late summer is the optimum time to apply nitrogen.

If QC is required for this sample, please contact lab.

Liability Limits: The warranty of Denele Analytical is limited to the accuracy of the analyses of the samples as received. Denele Analytical assumes no responsibility for which the customer uses our test results, nor liability for any other warranties, expressed or implied. These terms and conditions shall supercede any conflicting terms and conditions submitted on customer purchase orders or other forms submitted for work.

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