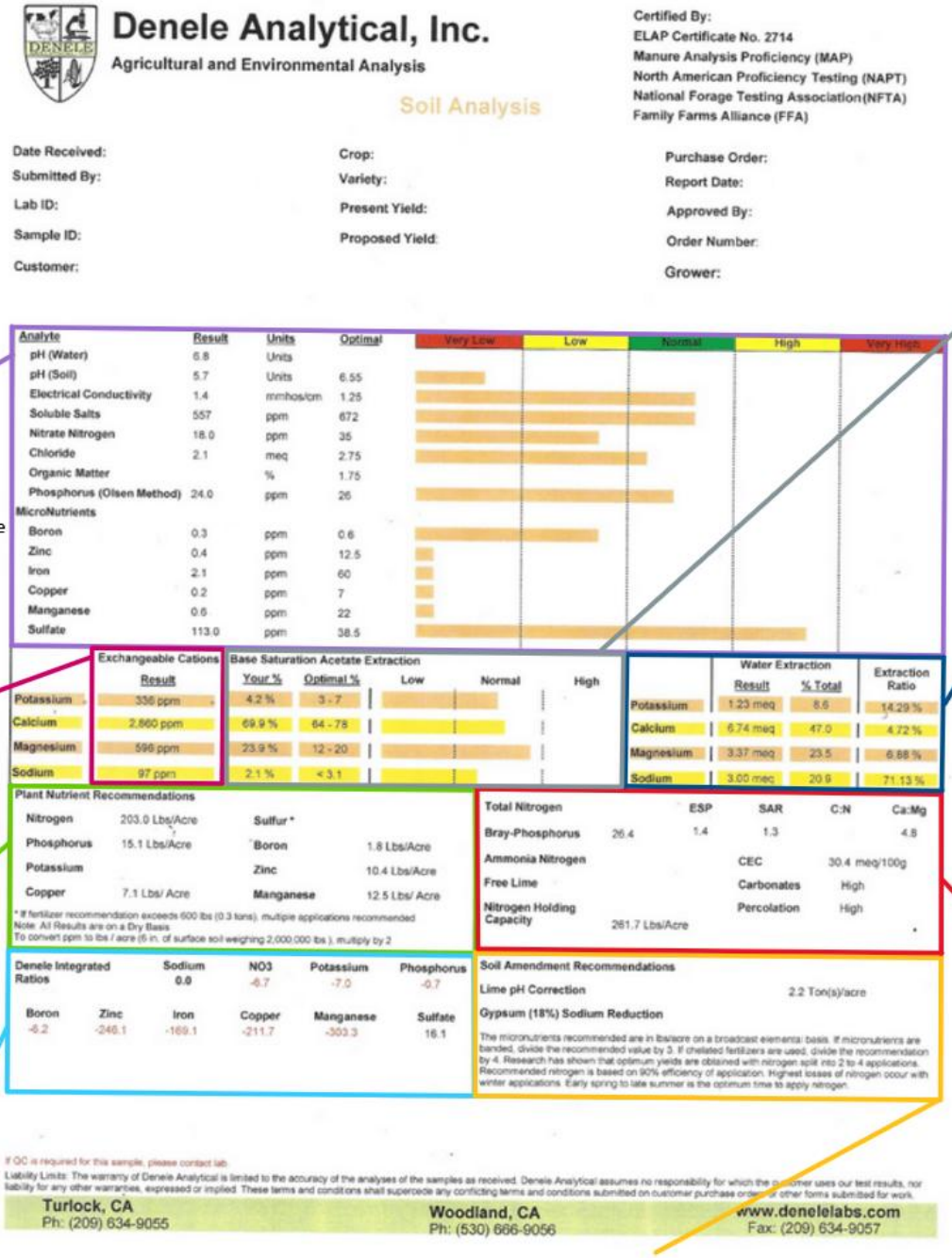

Denele Analytical, Inc.

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:
Submitted By:
Lab ID:
Sample ID:
Customer:

Crop:
Variety:
Present Yield:
Proposed Yield:

Purchase Order:
Report Date:
Approved By:
Order Number:
Grower:

Analyte	Result	Units	Optimal	Very Low	Low	Normal	High	Very High
pH (Water)	6.8	Units						
pH (Soil)	5.7	Units	6.55					
Electrical Conductivity	1.4	mmhos/cm	1.25					
Soluble Salts	557	ppm	672					
Nitrate Nitrogen	18.0	ppm	35					
Chloride	2.1	meq	2.75					
Organic Matter		%	1.75					
Phosphorus (Olsen Method)	24.0	ppm	26					
MicroNutrients								
Boron	0.3	ppm	0.6					
Zinc	0.4	ppm	12.5					
Iron	2.1	ppm	60					
Copper	0.2	ppm	7					
Manganese	0.6	ppm	22					
Sulfate	113.0	ppm	38.5					

Exchangeable Cations	Result	Your %	Optimal %	Low	Normal	High
Potassium	336 ppm	4.2 %	3 - 7			
Calcium	2,860 ppm	69.9 %	64 - 78			
Magnesium	596 ppm	23.9 %	12 - 20			
Sodium	97 ppm	2.1 %	< 3.1			

Water Extraction	Result	% Total	Extraction Ratio
Potassium	1.23 meq	8.6	14.29 %
Calcium	6.74 meq	47.0	4.72 %
Magnesium	3.37 meq	23.5	6.88 %
Sodium	3.00 meq	20.9	71.13 %

Plant Nutrient Recommendations

Nitrogen	203.0 Lbs/Acre	Sulfur *	
Phosphorus	15.1 Lbs/Acre	Boron	1.8 Lbs/Acre
Potassium		Zinc	10.4 Lbs/Acre
Copper	7.1 Lbs/ Acre	Manganese	12.5 Lbs/ Acre

* 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	26.4	1.4	1.3		4.8
Ammonia Nitrogen			CEC	30.4 meq/100g	
Free Lime			Carbonates	High	
Nitrogen Holding Capacity	261.7 Lbs/Acre		Percolation	High	

Denele Integrated Ratios	Sodium	NO3	Potassium	Phosphorus
	0.0	-6.7	-7.0	-0.7

Boron	Zinc	Iron	Copper	Manganese	Sulfate
-6.2	-246.1	-169.1	-211.7	-303.3	16.1

Soil Amendment Recommendations

Lime pH Correction 2.2 Ton(s)/acre

Gypsum (18%) Sodium Reduction

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 OC 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.

Turlock, CA
Ph: (209) 634-9055

Woodland, CA
Ph: (530) 666-9056

www.denelelabs.com
Fax: (209) 634-9057

A numerical and visual representation of customer soil results versus the optimal levels of analyte and micronutrients for that type of crop.

Refers to how much of the cation is present in the soil. See CEC (red box) for how much the soil can hold.

Recommendations on what fertilizer needs to be added to the crop over time, based on above results.

These ratios provide information on what is of most concern. You want to address the largest negative number first and work your way up to the smallest negative number.

This illustration of the relationship between cations displays optimal numbers that encompass all crops. Therefore, numbers that place the results in the "normal" zone will vary between crop types.

This extraction is based on water instead of a solvent and the result is the inverse of the holding capacity. For the ratio, if K is below 7 it is of concern, but above 12 is good. Ca/Mg below 15 is of concern, but above 30 is good. Na depends on leaching. If there is no leaching you want a high number and if there is leaching you want a low number.

Total Nitrogen and its' holding capacity are included as safety precautions to avoid excess Nitrogen. CEC tells how much fertilizer the soil can hold and determines frequency it should be applied. Percolation follows the trend of CEC. Carbonates gives an idea as to the reaction of the soil to the addition of acid.

Recommendation as to how to correct issues in the soil. Adding lime fixes the pH of the soil. Adding Gypsum (sodium sulfate), helps with a salt, pH, Na, and Ca problems.