

## Section 9 of 22 (9q - Soil Analysis Guide - Example)

Parameters Analyzed (Sample Date: 6/10/08; taken at 0 – 12” depth)

- |   |   |   |  |
|---|---|---|--|
| <ul style="list-style-type: none"> <li>• Nitrogen (N)</li> <li>• Phosphorus (P)</li> <li>• Potassium (K)</li> <li>• Sulfur (S)</li> <li>• Calcium (Ca)</li> </ul> | <ul style="list-style-type: none"> <li>• Magnesium (Mg)</li> <li>• Zinc (Zn)</li> <li>• Iron (Fe)</li> <li>• Manganese (Mn)</li> <li>• Copper (Cu)</li> </ul> | <ul style="list-style-type: none"> <li>• Sodium (Na)</li> <li>• Chloride (Cl)</li> <li>• Free Lime(CaCO<sub>3</sub>)</li> <li>• Organic Matter (%)</li> </ul> | <ul style="list-style-type: none"> <li>• pH</li> <li>• Sodium Adsorption Ratio (SAR)</li> <li>• Soluble Salts (ECe)</li> </ul> |
|---|---|---|--|

**Soil Analysis Report (3.6 x ppm = Lbs. of nutrient/ac-ft) NA = Not Analyzed**

Nutrient	NO <sub>3</sub> -N	P	K	SO <sub>4</sub> -S	Ca	Mg	Zn	Fe	Mn	Cu	Na	Cl
mg/kg = ppm	4	15	99	22	2621	267	0.3	7	19	1	225	NA
Classification	Very Low	Moderate	Very High	High	Very High	Very High	Low	High	Very High	High	refer to SAR	NA
Lbs./ac-ft	14	54	356	79	9,436	961	1.0	25	68	4	810	NA

A **Very Low** or **Low** Classification indicates a **High Probability** for obtaining a fertilizer response

A **Moderate** Classification indicates a fertilizer response **May** or **May Not** occur.

A **High** or **Very High** Classification indicates a fertilizer response is **Not** likely to occur.

Rating for ppm	Classification: NM NRCS Nutrient Management Jobsheet (590): click on Tables & Crop Tabs									
	N	P	K	Ca	Mg	Zn	Fe	Mn	Cu	
Very Low	.01 - 4	.01 - 7	.01 - 9	.01 - 99	.01 - 14	.01 - .09	.01 - 0.9	.01 - .09	.01 - .09	.01 - .09
Low	5 - 9	8 - 14	10 - 29	100 - 199	15 - 29	0.1 - 0.4	1 - 2.4	0.1 - 0.9	0.1 - 0.2	0.1 - 0.2
Moderate	10 - 29	15 - 22	30 - 59	200 - 399	30 - 59	0.5 - 0.9	2.5 - 4.4	1 - 2.4	0.3 - 0.9	0.3 - 0.9
High	30 - 49	23 - 30	60 - 79	400 - 799	60 - 99	1 - 9	4.5 - 9	2.5 - 9	1 - 9	1 - 9
Very High	> 49	> 30	> 79	> 799	> 99	> 9	> 9	> 9	> 9	> 9

ppm x 4 = lbs. of nutrient/ac.-ft. (i.e., based on soil weighing 4 million lbs. per acre-foot). Or ppm x 2.0 = lbs. of nutrient per acre 6” depth.

Free Lime(CaCO<sub>3</sub>) = No; pH = 7.7  
Organic Matter (%) = 1.2

Sodium Adsorption Ratio (SAR) = 1.1  
Soluble Salts (ECe) = 0.46 mmhos/cm

CEC - Typical proportions of major adsorbed cations: Ca =65%, Mg = 20%, K = 10%, Na = 5% (Table 8.1, Nature & Properties of Soils 11<sup>th</sup> Edition)

### Fertilizer Inputs (Recommendations from Land Grant University or Private Testing/Consulting Labs)

Nutrient	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	S	Ca	Mg	Zn	Fe	Mn	Cu	Na	Cl
Lbs./ac.		60					3.0				n/a	n/a
lbs. of P <sub>2</sub> O <sub>5</sub> x 0.44 = _____ lbs. of P (Phosphorus)			lbs. of S ÷ 0.33 = _____ lbs. of SO <sub>4</sub> (Sulfate)			Split Apply Nutrient applications to meet plant needs & improve efficiency. Refer to fertilizer recommendations for guidance.						
lbs. of K <sub>2</sub> O x 0.83 = _____ lbs. of K (Potassium)												

- Producer: Animas Valley
- Irrigation Water needed: 44 ac-in (i.e., 3.67 acre feet/acre/year)
- Crop: Alfalfa; Yield: 9 tons
- Field #: 2; Acres: 119

- Soil Texture: Silty Clay Loam
- Crop Rotation: Alfalfa (4-years) & corn silage (1-year)
- Irrigation System: Center Pivot

**Considerations:** (1) Nutrient Balance, (2) Nutrient Deficiency, (3) Nutrient Toxicity, (4) Salinity Management, (5) Soil Amendments, (6) Crop Salt Tolerance, (7) Crop Rotations, (8) Cover Crops, (8) Other (IWM, IPM, etc.)

**Note:** Evaluate above data with Soil Quality (e.g., aggregate stability), IWM, IPM and Tillage Operations records for best understanding of results. rudy.garcia.2009

Agronomy Tech Note 76 (<http://www.nm.nrcs.usda.gov/technical/handbooks/iwm/nmiwm.html>)