### Parameters Analyzed

- Nitrogen (N)
- Phosphorus (P)
- Potassium (K)
- Sulfur (S)
- Calcium (Ca)
- Magnesium (Mg)
- Zinc (Zn)
- Iron (Fe)
- Manganese (Mn)
- Copper (Cu)
- Sodium (Na)
- Chloride (Cl)
- Bicarbonate (HCO$_3^-$)
- Carbonate (CO$_3^-$)
- Hydrogen Sulfide (H$_2$S)
- pH
- Sodium Adsorption Ratio (SAR)
- Total Dissolved Solids (TDS)

### Irrigation Water Analysis Report

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>NO$_3^-$-N</th>
<th>P</th>
<th>K</th>
<th>SO$_4^-$-S</th>
<th>Ca</th>
<th>Mg</th>
<th>Zn</th>
<th>Fe</th>
<th>Mn</th>
<th>Cu</th>
<th>Na</th>
<th>Cl</th>
</tr>
</thead>
<tbody>
<tr>
<td>mg/l = ppm</td>
<td>2.9</td>
<td>not analyzed</td>
<td>2.0</td>
<td>22</td>
<td>25</td>
<td>1.0</td>
<td>not analyzed</td>
<td>&lt;0.05</td>
<td>&lt;0.005</td>
<td>not analyzed</td>
<td>66</td>
<td>11</td>
</tr>
<tr>
<td>Total Lbs./ac.</td>
<td>29.3</td>
<td>20.2</td>
<td>222.6</td>
<td>253.0</td>
<td>10.1</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>HCO$_3^-$</th>
<th>CO$_3^-$</th>
<th>H$_2$S</th>
<th>B</th>
<th>pH = 8.1</th>
<th>SAR = 3.5</th>
<th>TDS (mg/l of soluble salts) = 0.34 mmhos/cm (ECiw) x 640</th>
</tr>
</thead>
<tbody>
<tr>
<td>mg/l = ppm</td>
<td>130</td>
<td>&lt;10</td>
<td>not analyzed</td>
<td>0.04</td>
<td>SAR = 3.5 (used to evaluate potential Infiltration problems)</td>
<td>pH = 8.1 (most crops will grow satisfactorily on soils with a pH ranging from 6.2 to 8.3)</td>
<td></td>
</tr>
<tr>
<td>Total Lbs./ac.</td>
<td>1315.6</td>
<td>101.2</td>
<td>not analyzed</td>
<td>0.41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Example Calculation:

- 25 mg (Ca)/l x 0.23 = 5.75 lbs./ac-in of water.
- 5.75 lbs. of Ca x 44 ac-in = 253 lbs. of Calcium applied/acre/year

### What does this mean?

- Total Salt Load = 2,731.51 lbs./acre/year
- 536 lbs. of Total Salt Load are Nutrients (N, K, S, Ca, Mg)
- 668 lbs. of Sodium & 111 lbs. of Chloride
- 1,417 lbs. of Bicarbonate & Carbonate (i.e., Alkalinity, which buffers the pH above 7)

### Considerations:

1. nutrient content

### Example:

- 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

### Agronomy Tech Note 76


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