Parameters Analyzed (Sample Date: 4/23/08)

- Nitrogen (N)
- Phosphorus (P)
- Potassium (K)
- Sulfur (S)
- Calcium (Ca)
- Magnesium (Mg)
- Zinc (Zn)
- Iron (Fe)
- Manganese (Mn)
- Copper (Cu)
- Sodium (Na)
- Chloride (Cl)
- Boron (B)
- Molybdenum (Mo)

Considerations:
- Nutrient Deficiency
- Nutrient Toxicity
- Hidden Hunger (no visual symptoms)
- Nutrient Imbalance
- Fertility Monitoring/Effectiveness

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Total N</th>
<th>Total P</th>
<th>K</th>
<th>Total 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>ppm or %</td>
<td>4.03%</td>
<td>0.33%</td>
<td>3.52%</td>
<td>0.3%</td>
<td>1.67%</td>
<td>0.24%</td>
<td>18 ppm</td>
<td>151 ppm</td>
<td>51 ppm</td>
<td>9 ppm</td>
<td>0.138%</td>
<td>NA %</td>
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<tr>
<td>Sufficiency Range</td>
<td>Low (L) to High (H)</td>
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<td>L: 4.5</td>
<td>H: 7.0</td>
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<tr>
<td>L: 0.25</td>
<td>H: 1.5</td>
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<tr>
<td>L: 0.3</td>
<td>H: 1.0</td>
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<td>L: 1.0</td>
<td>H: 5.0</td>
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<td>L: 0.3</td>
<td>H: 2.0</td>
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<tr>
<td>L: 20</td>
<td>H: 150</td>
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<tr>
<td>L: 50</td>
<td>H: 1000</td>
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<td>L: 10</td>
<td>H: 50</td>
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</tbody>
</table>

Sufficiency Range Low (L) to High (H)

- Nutrient levels at or below the Low Sufficiency Range indicate a High Probability of a fertilizer response.
- Nutrient levels at or above the High Sufficiency Range indicate a Low Probability of a fertilizer response.

Example Calculation of Harvested Nutrients:

- 9 tons (Alfalfa) at 9% moisture content
- 9 tons x 2,000 lbs./ton = 18,000 lbs.
- 18,000 lbs. x 0.91 (i.e., 91% dry matter) = 16,380 lbs. of Alfalfa/ac (dry weight basis)
- 16,380 lbs. x 0.031 (i.e., 3.1% N) = 508 lbs. of N removed per acre per year

Note: NO₃-N; PO₄-P & SO₄-S are in ppm for Petiole Samples

In suspected Saline or Sodic areas, Sodium & Chloride should be analyzed

Harvested Nutrients

- Crop (lbs./ac) x % dry matter = lbs. of Crop (dry weight)/ac
- Crop (dry weight, lbs./ac) x % Nutrient = lbs. of Nutrient removed/ac/yr
- Note: For NPK % averages of nutrient uptake & % average Moisture Content, refer to NRCS Nutrient Uptake Tool: http://npk.nrcs.usda.gov/

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- Producer: Animas Valley
- Irrigation Water needed: 44 ac-in (i.e., 3.67 acre feet/acre/year)
- Acres: 119; Field #: 2
- Soil Texture: Silty Clay Loam
- Crop: Alfalfa; Yield: 9 tons
- Crop Rotation: Alfalfa (4-years) & corn silage (1-year)
- Irrigation System: Center Pivot

Note: Evaluate above data with Soil Quality Indicators, IWM, IPM, Nutrient Mgt. & Tillage Operations records for best interpretation of results. rudy.garcia.2009

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