### Agronomy Tech Note 76

**Producer:** Dineh College, NM  
**Crop:** Apples (Golden Delicious)  
**Yield:** bu/ac  
**Irrigation Water:** 30 ac-in (No. of irrigations =?)

<table>
<thead>
<tr>
<th>Tillage Operations: minimum tillage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Texture: Sandy Clay Loam</td>
</tr>
<tr>
<td>Soil Structure: Granular</td>
</tr>
<tr>
<td>Aggregate Stability: Good</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Irrigation Water Analysis (ppm x 0.23 x 30” = lb/ac)</th>
<th>Soil Analysis 0-6” depth</th>
<th>Nutrient Inputs (recommendations)</th>
<th>Plant Tissue Analysis</th>
<th>Should I Apply Nutrients?</th>
<th>Conservation Practices to consider for achieving sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON = Organic Nitrogen mineralized</td>
<td>ppm or mg/l</td>
<td>Pounds per Acre</td>
<td>ppm or mg/kg</td>
<td>Pounds per Acre (VL, L, M, H, &amp; VH)</td>
<td>% or ppm &amp; Rating (low - high)</td>
<td>Sufficiency Range (leaf: middle of terminal shoot)</td>
</tr>
<tr>
<td>Organic Matter</td>
<td>1.32 %</td>
<td>25,080</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N mineralized</td>
<td>30.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrate-Nitrogen</td>
<td>Not Analyzed</td>
<td>14.35</td>
<td>27.3</td>
<td>M</td>
<td>50 N</td>
<td>2.04 %</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>2.7</td>
<td>5.1</td>
<td>VL</td>
<td>90 P2O5</td>
<td>0.09 %</td>
<td>0.09 – 0.40 %</td>
</tr>
<tr>
<td>Potassium</td>
<td>2.1</td>
<td>14.5</td>
<td>57.0</td>
<td>108.3</td>
<td>M</td>
<td>30 K2O</td>
</tr>
<tr>
<td>Sulfate-Sulfur</td>
<td>36.2</td>
<td>249.8</td>
<td>Net</td>
<td>Analyzed</td>
<td>none</td>
<td>0.11 %</td>
</tr>
<tr>
<td>Calcium</td>
<td>63.7</td>
<td>439.5</td>
<td>729.5</td>
<td>1,386</td>
<td>H</td>
<td>none</td>
</tr>
<tr>
<td>Magnesium</td>
<td>10.7</td>
<td>73.8</td>
<td>70.4</td>
<td>133.8</td>
<td>H</td>
<td>none</td>
</tr>
<tr>
<td>Zinc</td>
<td>1.02</td>
<td>19</td>
<td>1.9</td>
<td>H</td>
<td>none</td>
<td>32 ppm</td>
</tr>
<tr>
<td>Iron</td>
<td>Not Analyzed</td>
<td>5.42</td>
<td>10.3</td>
<td>H</td>
<td>none</td>
<td>174 ppm</td>
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<tr>
<td>Manganese</td>
<td>Not Analyzed</td>
<td>3.29</td>
<td>6.3</td>
<td>H</td>
<td>none</td>
<td>97 ppm</td>
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<tr>
<td>Copper</td>
<td>0.6</td>
<td>1.14</td>
<td>M</td>
<td>none</td>
<td>6 ppm</td>
<td>6 - 12 ppm</td>
</tr>
<tr>
<td>Boron</td>
<td>0.14</td>
<td>0.97</td>
<td>Net</td>
<td>Analyzed</td>
<td>none</td>
<td>25.9 ppm</td>
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<tr>
<td>Molybdenum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Sodium</td>
<td>28.7</td>
<td>198.0</td>
<td>181.2</td>
<td>use SAR</td>
<td>Below Det. L.</td>
<td>Range needed</td>
</tr>
<tr>
<td>Chloride</td>
<td>8.5</td>
<td>58.7</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bicarbonate</td>
<td>129.4</td>
<td>892.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Carbonate</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

**Additional Assessments to Consider in evaluating your Cropping System (soil pH, free lime & CEC):**
- Electrical Conductivity of Irrigation Water (ECw) = 0.501 mmhos/cm
- Sodium Adsorption Ratio (SAR) from water test = 0.88 & pH = 8.17
- Refer to Irrigation Water Quality Guidelines for infiltration assessment. Total Dissolved Solids = 331 mg/l (soluble salts applied = 2,284 lb/ac/yr.)
- ECe (EC of Soil Saturation extract) = 3.7 mmhos/cm & pH = 7.5
- Sodium Adsorption Ratio (SAR) from soil test = 1.72
- Refer to Crop Salt Tolerance Table to evaluate for potential yield reduction and salinity management considerations/options


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