Collecting Leaf Samples

Evaluating Pecan Yield & Quality

Irrigation Water, Soil, Leaf & Compost analyses for Pecan Orchard

**Irrigation Water Quality (36” applied/ac.):**
- Nitrate-N: 8.0 mg/l = 65.3 lbs./ac.
- Potassium: 2.9 mg/l = 23.7 lbs./ac.
- Sulfate: 105.0 mg/l = 865.8 lbs./ac.
- Calcium: 49.2 mg/l = 401.5 lbs./ac.
- Magnesium: 7.01 mg/l = 57.2 lbs./ac.
- Boron: 0.06 mg/l = 0.49 lbs./ac.
- Sodium: 84.7 mg/l = 691.2 lbs./ac.
- Chloride: 38.0 mg/l = 310.1 lbs./ac.
- Bicarbonate: 135.0 mg/l = 1,101.6 lbs./ac.
- Carbonate: 0.06 mg/l = 0.52 lbs./ac.
- ECiw = 0.664 mmhos/cm & SAR = 3.0 & pH = 8.12
- Total Dissolved Solids = 432.0 mg/l
- Soluble Salts applied = 3,521.0 lbs./ac./yr.

**Soil Analysis (0-6” depth): Silty Clay Loam**

- Soil Organic Matter (SOM) typically contains about 5%
- Nitrogen & 2.3% of the SOM is mineralized/yr.
- Nitrate-Nitrogen = 13.0 ppm = 26.0 lbs./ac.

<table>
<thead>
<tr>
<th>INDEX</th>
<th>Phosphorus</th>
<th>Potassium</th>
<th>Sulfate</th>
<th>Calcium</th>
<th>Magnesium</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>0.2%</td>
<td>1.5%</td>
<td>3.0%</td>
<td>1.0%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

**Soil Health Assessments**

- Water Stable Aggregates in No-Till System
- NRCS Soil Quality Test Kit
- Evaluating Pecan Yield & Quality

**Resource Concerns:** Irrigation Water, Soil, Leaf & Compost analyses for Pecan Orchard

**Leaf Analysis:**

<table>
<thead>
<tr>
<th>% or ppm</th>
<th>Sufficiency Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (kjeldahl): 2.8% (2 – 3%)</td>
<td></td>
</tr>
<tr>
<td>Phosphorus: 0.13% (0.1 – 0.3%)</td>
<td></td>
</tr>
<tr>
<td>Potassium: 1.5% (0.75 – 2.0%)</td>
<td></td>
</tr>
<tr>
<td>Sulfur: 0.26% (0.15 – 0.3%)</td>
<td></td>
</tr>
<tr>
<td>Calcium: 2.4% (0.7 – 2.0%)</td>
<td></td>
</tr>
<tr>
<td>Magnesium: 0.5% (0.2 – 0.75%)</td>
<td></td>
</tr>
<tr>
<td>Zinc: 30 ppm (40 – 100 ppm)</td>
<td></td>
</tr>
<tr>
<td>Iron: 54 ppm (50 – 300 ppm)</td>
<td></td>
</tr>
<tr>
<td>Manganese: 1,900 ppm (50 – 400 ppm)</td>
<td></td>
</tr>
<tr>
<td>Copper: 3.9 ppm (5 – 50 ppm)</td>
<td></td>
</tr>
<tr>
<td>Boron: 82 ppm (20 – 60 ppm)</td>
<td></td>
</tr>
<tr>
<td>Sodium: 0.006% (0.01 – 0.2%)</td>
<td></td>
</tr>
</tbody>
</table>

**Economics:**

- Inputs ($), Management (RMS & Soil Health Mgt. System), Profit ($)

**High quality compost (lbs./ton):**

- Ca = 29.8 lbs.
- Mg = 14.0 lbs.
- Na = 4.29 lbs.
- K2O = 36.46 lbs.
- Fe = 17.61 lbs.
- Zn = 0.14 lbs.
- Mn = 0.55 lbs.
- Cu = 0.05 lbs.
- P2O5 = 27.32 lbs.
- S = 2.6 lbs.
- B = 0.07 lbs.
- Mo = 0.001 lbs.
- Carbon = 97.08 lbs.

(Average Moisture = 43.56%)