Soil Sample Collection

John Turner
University of Arkansas
Division of Agriculture,
Extension Agent
What does my turf really need?

1. Get a soil test
2. Check pH, P, K
3. And ......
Soil Sampling

• To determine average nutrient levels take 7-10 cores about 6” deep in a zig-zag sampling pattern across the area.
Typical soil-sampling pattern
When to take soil samples?

- For most areas, take soil samples every 2-3 years.
- Take samples about the same time of year to reduce variation in the results due to seasonal fertility fluctuations.
Soil sample collection instructions

- Sample each area separately and label the samples with the area ID.
- Mix all samples from an area together to make a composite sample.
- Be sure the soil is DRY and debris free before submitting sample.
- Soil tests are free to Arkansas residents.
Submitting the soil sample

Take your soil sample to your local county extension office with the following information:

- Area ID for each sample
- Previous crop grown
- Crop to be grown
- Irrigation Source
- Previous Lime application history
A basic routine soil test includes:

- pH
- PHOSPHORUS (P)
- POTASSIUM (K)
- CALCIUM (Ca)
- Magnesium (Mg)
- Sodium (Na)
- Iron (Fe)
- Sulfate (SO₄)
- Manganese (Mn)

- Copper (Cu)
- Zinc (Zn)
- Boron (B)
- Salinity
- ECEC
- Fertilizer recommendations for up to 3 years
<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Concentration (ppm)</th>
<th>Soil Test Level (Mehlich 3)</th>
<th>Soil Properties</th>
<th>Property</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>9</td>
<td>Very Low</td>
<td>Soil pH (1:2 soil-water)</td>
<td>5.5</td>
<td>umhos/cm</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>60</td>
<td>Very Low</td>
<td>Soil EC (1:2 soil-water)</td>
<td>8.2</td>
<td>omol/cm</td>
<td></td>
</tr>
<tr>
<td>Ca</td>
<td>5.0</td>
<td>Very Low</td>
<td>Organic Matter (Loss on Ignition)</td>
<td></td>
<td>0</td>
<td>%</td>
</tr>
<tr>
<td>Mg</td>
<td>2.6</td>
<td>Very Low</td>
<td>Estimated Soil Texture</td>
<td></td>
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<tr>
<td>SO4-S</td>
<td>1.0</td>
<td>Very Low</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Zn</td>
<td>0.3</td>
<td>Very Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fe</td>
<td>0.9</td>
<td>Very Low</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mn</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cu</td>
<td>1.2</td>
<td>Very Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>0.3</td>
<td>Very Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>NO3-N</td>
<td>0.4</td>
<td>Very Low</td>
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</tbody>
</table>

### 2. Soil Properties

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<td></td>
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</table>

### 3. Recommendations

<table>
<thead>
<tr>
<th>Crop</th>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
<th>Ca/S</th>
<th>Zn</th>
<th>B</th>
<th>Lime</th>
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</thead>
<tbody>
<tr>
<td>Pasture (203)</td>
<td>40</td>
<td>120</td>
<td>160</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4000</td>
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<tr>
<td>Pasture - Cool-Season Grasses (EST) (202)</td>
<td>60</td>
<td>100</td>
<td>120</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4000</td>
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<tr>
<td>Pasture - Cool-Season Grasses (MNT) (203)</td>
<td>60</td>
<td>100</td>
<td>120</td>
<td>0</td>
<td>0</td>
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<td>4000</td>
</tr>
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</table>

### 4. Crop 1 Notes:

Apply the recommended rates of N, P, and K at the time of establishment.

### 5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.
Soil pH Ranges

Acidity - Neutral - Alkalinity

Common pH range
Grass Range

Neutral

Soil pH Ranges

10,000x 1,000x 100x 10x 0 10x 100x 1,000x 10,000x

3 4 5 6 7 8 9 10 11
How Soil pH Affects Availability of Plant Nutrients