

# Soil Testing Quick Reference Guide

**Soil Sampling:** 4-6" depth from representative areas of similar management

**Soil Testing Lab:** Exclusively use one trusted soil testing laboratory

**Soil Testing Method:** Mehlich-3 – pH independent method

## Soil test results interpretation and recommendation

Soil Test Result	Desired Value	Soil Test Result	Annual Fertilizer Recommendation
Phosphorus (P)	25-50 ppm <sup>a</sup>	Less than 25	>0.25 lbs. P <sub>2</sub> O <sub>5</sub> per lb. N applied <sup>b</sup>
		25-50	0.25 lbs. P <sub>2</sub> O <sub>5</sub> per lb. N applied <sup>b</sup>
		Greater than 50	No P fertilizer required
Soil organic matter (SOM)	No recommended range	Much greater than previous year	Reduce inputs (nitrogen and water) Increase cultivation and topdressing
		Slightly greater or same as previous year	Some increase is normal in new turf stands - continue good management.
		Much less than previous years	Likely the result of aggressive cultivation and/or reduced inputs
Potassium (K)	40-80 ppm <sup>a</sup>	Less than 40 ppm <sup>1</sup>	>1 lb. K <sub>2</sub> O per lb. N applied <sup>b</sup>
		40-80 ppm <sup>1</sup>	0.75 to 1 lb. K <sub>2</sub> O per lb. N applied <sup>b</sup>
		Greater than 80 ppm	No K <sub>2</sub> O required
Soil pH	5.5-8.0 <sup>c</sup>	Less than 5.5	Consider lime application
		6.0-8.0	No remediation required
		Greater than 8.0	Consider use of acidifying fertilizer; potential micronutrient limitation
Salinity	< 3 dS/m <sup>c</sup>	Less than 1.5 dS/m	Low salinity risk
		1.5 to 3.0 dS/m	Bluegrasses sensitive, leach soil
		Greater than 3.0 dS/m	Most turfgrasses sensitive, leach soil
Sodicity (native soils only)	< 5% ESP	Less than 5% ESP	Low sodium risk in fine-texture soil
		5-15% ESP	Consider gypsum treatment to improve permeability of native soils
		Greater than 15%	Sodic soil, treat native soils with gypsum
All other nutrients (Ca, Mg, S, N, Fe, etc.)	No reliable/science-based soil test interpretations for these nutrients		Confirm deficiency with tissue testing or small applications to turf to verify fertilizer response

<sup>a</sup> Mehlich-3 soil test method

<sup>b</sup> Demand for P and K fertilizer is affected by nitrogen fertilizer, soil type/environment, and clipping management. For example, turf on a native soil, clippings removed, and fertilized annually with 4 lbs of nitrogen/1000 ft<sup>2</sup> would need about 1 lb of phosphorus (P<sub>2</sub>O<sub>5</sub>) and 3 lbs of potassium (K<sub>2</sub>O)/1000 ft<sup>2</sup> to sustain soil test levels. Returning clippings reduces those P and K requirements by 50%. These ratios are good starting values and may need to be adjusted to sustain soil test P and K levels at any particular location. More information can be found here: <http://goo.gl/OwrnmB>.

<sup>c</sup> Saturated soil paste extract method